



FLASH NEWS

No. 45-2021 – THE BIOTECH INDUSTRY INTELLIGENCE REPORT

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1. FRACTIONATION & CONVERSION

3478 - Publication of the results of a study on enzymatic reactions produced by phytoene desaturases in different biological environments.

A team from Toulouse Biotechnology Institute ([TBI](#), CNRS/INRAE/INSA Toulouse) studied a group of phytoene desaturases with different EC numbers to test the robustness of the classification, in particular when these enzymes are used outside their natural environment, and specifically for applications to reconstitute synthetic pathways in microorganisms. The team analysed the evolutionary relationships of these phytoene desaturase groups then compared these data with reactions actually produced by these enzyme groups, either after production and purification in a microbial host, or when the phytoene desaturases are inserted into a synthetic metabolic pathway (reconstitution of the synthetic pathway of β -carotene in yeast). The results show that the EC classification, in the case of phytoene desaturases, does not fully reflect reality and that, ultimately, the reactions produced by these enzymes are a combination of their own evolution and the biological conditions under which we measure these reactions, either in a tube with purified enzymes, or during reconstitution of a synthetic pathway in a microorganism. This phenomenon primarily arises from competition between potential reactions that can take place between the various enzymes in the pathway. These results highlight that, in the framework of a biotechnological use (such as the production of β -carotene in yeast), the other enzymes in the synthesis pathway change the reactions produced by a phytoene desaturase quite dramatically. They are of significant importance for the classification of enzymes, as well as for the production of molecules, including when they are inserted into a microorganism. Last, the enzymatic nomenclature (here, that of phytoene desaturases) does not necessarily make it possible to define the functionalities of enzymes when they are used in biotechnology applications.

Publication: Multiplicity of carotene patterns derives from competition between phytoene desaturase diversification and biological environments. Journal: Scientific Reports. DOI: 10.1038/s41598-020-77876-4.

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

3479 - Discovery of free-running circadian rhythms in *Bacillus subtilis*.

To detect these circadian rhythms, the researchers used a technique called luciferase reporting, which involves the addition of an enzyme that produces bioluminescence so researchers can visualise how active a gene is inside an organism. They focused on two genes: first, a gene called *ytvA* which encodes a blue light photoreceptor, and, second, an enzyme called KinC which is involved in inducing the formation of biofilms and spores in the bacterium. They observed the levels of the genes in constant dark in comparison to cycles of 12 hours of light and 12 hours of dark. They found that the pattern of *ytvA* levels was adjusted to the light and dark cycle, with levels increasing during the dark and decreasing in the light. The researchers also observed that it took several days for a stable pattern to appear and that the pattern could be reversed if the conditions were inverted. These two observations are common features of circadian rhythms and their ability to 'entrain' to environmental cues. They then carried out similar experiments using daily temperature changes. Over the course of their experiments, they found that the rhythms of *ytvA* and *kinC* adjusted in a way consistent with circadian rhythms, and did not just simply switch on and off in response to the temperature.

This discovery could have implications for several fields:

- Health: is the time of day of bacterial exposure relevant to infection? When is the best time to administer medication?
- Industrial biotechnological processes: can they be optimised by accounting for time of day?
- Ecology: can this discovery help develop efficient solutions to protect crops?

Next steps: Investigate circadian rhythms across bacteria. Find out which bacterial processes cause these rhythms. Understand why having a circadian rhythm is advantageous to bacteria.

Publication: A circadian clock in a nonphotosynthetic prokaryote. Journal: Science Advances. DOI: 10.1126/sciadv.abe2086.

More information: [Press release](#), [Sci News.com](#)

En savoir plus : [Trust my Science.com](#)

3480 - New biosynthetic pathways to produce short-chain primary amines.

A team at the Department of Chemical and Biomolecular Engineering at the Korean Advanced Institute of Science and Technology ([KAIST](#)) has successfully produced ten short-chain primary amines *in vivo* by combining retrobiosynthesis and a precursor selection step.

Next step: Increase the efficiency of the production of short-chain primary amines.

Publication: Microbial production of multiple short-chain primary amines via retrobiosynthesis. Journal: Nature Communications. DOI: 10.1038/s41467-020-20423-6.

More information: [Press release](#)

3481 - A new way to increase the production of biofuels.

Researchers at [Aarhus University](#), Denmark, and Massachusetts Institute of Technology worked with a light-dependent enzyme, which originates from microalgae and can decarboxylate fatty acids into alkanes using blue light as the only source of energy. They artificially inserted the enzyme into the cells of the oleaginous yeast *Yarrowia Lipolytica*. The yeast metabolized the glucose, originating from biomass, into free fatty acid molecules and acyl-CoAs which were then converted to alkanes by fatty acid photodecarboxylase. Their research proved that acyl-CoA is this enzyme's preferred reactant, not free fatty acid. This finding made it possible to metabolize 89% of acyl-CoA into alkanes, reaching titers of 1.47 g/l from glucose, which is close to industrially relevant levels. According to associate professor Zheng Guo, of Aarhus University: *'Previous metabolic engineering studies would target maximizing the concentration of free fatty acids in the cells that are being engineered. But now, with this discovery, we know that it is acyl-CoA that needs to be maximized. This is important news for synthetic biology applications, and we can now begin to maximize the flux of the acyl-CoA into this engineered metabolic pathway to reach even higher titers [of alkanes] in the future.'*

Publication: Synthesis of high-titer alka(e)nes in *Yarrowia lipolytica* is enabled by a discovered mechanism. Journal: Nature Communications. DOI: 10.1038/s41467-020-19995-0.

More information: [Science Daily.com](#)
En savoir plus : [Enerzine.com](#)

3482 - A new technology to produce biobased PEF.

The Technical Research Centre of Finland (VTT) announced that it had developed a new technology to use agricultural co-products containing pectin, such as citrus fruit peel and sugar beet pulp, as a raw material to produce biobased PEF plastic. Using PEF polymers instead of fossil-based PET would reduce the carbon footprint of plastic bottles by 50% and increase the shelf life of food. According to Professor Holger Pöhler: *'In the near future, you may buy orange juice in bottles that are made out of orange peel. VTT's novel technology provides a circular approach to using food waste streams for high-performance food packaging material.'*

Publication: A unique pathway to platform chemicals: aldaric acids as stable intermediates for the synthesis of furandicarboxylic acid esters. Journal: Green Chemistry. DOI: 10.1039/D0GC02293D.

More information: [Press release](#)

2. RESEARCH PROJECTS & PROGRAMMES

Calls for proposals

3483 - Publication of the calendar of calls for proposals under France's economic recovery plan.

The [calendar](#), published by the French Ministry for the Economy and Finances, contains all the essential information on each call for proposals, including the launch date, deadline, specifications and registration procedures. It will be updated on a regular basis.

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

Project launches

3484 - Creation of the AI4B.io lab to explore the potential of artificial intelligence in biosciences and biotechnologies.

The fruit of a partnership between the Dutch chemicals company Royal DSM and Delft University of Technology (the Netherlands), the AI4B.io Lab will be the first of its kind in Europe to apply artificial intelligence (AI) to full-scale biomanufacturing, from microbial strain development to process optimisation and scheduling. It is the third AI laboratory on the campus of Delft University and will form part of the country's national Innovation Center for Artificial Intelligence (ICAI). It will also work with [Planet B.io](#), a non-profit organisation founded by Royal DSM and Delft University to contribute to the green transition by promoting industrial biotechnologies.

Info: The Dutch chemicals company plans to invest €2.5 million in this laboratory over the first five years.

More information: [Press release](#)

3485 - The European Union launches the Green Consumption Pledge.

Launched on 25 January this year as part of the European Green Deal announced by the European Union in December 2019, this pilot project for green consumption encourages signatory companies to commit to actions to improve their environmental impact. It also aims to increase consumers' trust in the environmental performance of companies and products, to help them make more sustainable purchases. To sign up to the Green Consumption Pledge, companies have to take concrete measures in at least three of the following five areas:

- Calculate the carbon footprint of the company,
- Calculate the carbon footprint of selected flagship products using the methodology developed by the Commission,
- Increase sales of sustainable products or services,
- Commit part of the corporate public relations expenditure to the promotion of sustainable practices in line with the Commission's implementation of the European Green Deal policies and actions,
- Ensure information provided to consumers in relation to the company and product carbon footprints is easy to access, accurate and clear, and keep this information up-to-date.

The signatory companies must back up their progress with data that will be made public. The initial pilot phase will be completed by January 2022. An assessment will then be conducted in consultation with the participating companies, relevant consumer organisations and other stakeholders, before tackling the next steps.

The first companies to sign the pledge are L'Oréal, Decathlon, Colruyt, H&M and Lego.

Info: Any company in the non-food sector, as well as companies in the retail sector selling both food and non-food products, interested in joining the project can contact the European Commission before the end of March 2021.

More information: [Press release](#), [L'Oréal's press release](#)
En savoir plus : [Communiqué de presse de L'Oréal](#)

3486 - Launch of EPI BioScale®: an integrated services offering to accelerate the development of bioprocesses.

Founded by [ESCOM Chimie](#), [SAS Pivert](#) and [iTak Strategies](#), EPI BioScale® pools the resources and multidisciplinary skills of its members and partners to develop and scale-up bioprocesses. It aims to support industrial companies throughout the various biobased product development stages, from the laboratory stage to scale up, while limiting risks and costs. EPI BioScale® also offers new training courses to develop skills and expertise in the bioprocesses field.

En savoir plus : [Communiqué de presse](#), [Info Chimie.fr](#)

3487 - Creation of Alliance France Bioproduction.

France's 'health technologies and industries' sector-specific strategy committee announced the creation of Alliance France Bioproduction, a scientific and industrial steering committee tasked with organising all the support required to develop the bioreactors (biotherapeutics manufacturing units in bioproduction plants) of the future together with the authorities and tutelage bodies. The Alliance will also promote the sector in France and abroad. The aim is to make France the European leader in bioproduction by 2030. To achieve this goal, the ecosystem's main stakeholders (public authorities, academic research institutes, competitiveness clusters and hubs, entrepreneurs and manufacturers) gave the French government a road map to creating the environment required for the emergence of a sector focused on the bioreactors of the future. The idea is to increase the productivity gains of the latter by at least a factor of 100 in the next 10 years, bolstering the competitiveness and appeal of France's bioproduction offering. In concrete terms, the sector has set itself the task of increasing the share of biologics that are both approved by the European Medicines Agency and made in France by 5 to 20% within ten years. The proposed action plan is structured around five priorities:

- Creating a scientific and industrial steering structure for the sector: Alliance France Bioproduction,
- Supporting research that can bring about the innovations of tomorrow and support the development and scale up of today's major technological breakthroughs,
- Consolidating a network of industrial integrators,
- Improving France's appeal,
- Developing and maintaining key skills in France.

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

3488 - Bioproduction: creation of Campus Biotech Digital.

Launched by the French bioproduction sector, Campus Biotech Digital is a training platform that is '*the first of its kind*' in the bioproduction field. It will provide the conditions necessary to develop skills in the field so new technological challenges can be tackled. Spanning the entire bioproduction chain, from design to delivery of the product to the patient, Campus Biotech Digital will draw on a range of innovative digital solutions to make it easier to understand processes and grasp professional practices. Located on the Sanofi site in Vitry-Sur-Seine, France, the campus is led by a consortium of industrial stakeholders comprising bioMérieux, Novasep, Sanofi and Servier, which have come together within France's 'health technologies and industries' sector-specific strategy committee. The campus also groups together training bodies, digital businesses, equipment manufacturers and SMEs. Funded by a public-private partnership, it received €11.75 million under the 'engineering of vocational and continuing education and innovative offers' funding programme run by Caisse des Dépôts on behalf of the French government. The campus can also count on financial support from the Opérateur de Compétences Interindustriel and the Ile de France Region, as well as an impressive commitment from the sector's industrial stakeholders that make up the consortium and have invested over €30 million. The campus, which will offer initial training and continuing education, is expected to start its activities in the spring of 2021.

More information: [Press release](#)

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

Ongoing projects

3489 - Presentation of the fourth PIA investments for the future programme (PIA 4).

Allocated €20 billion for 2021-2025 and entirely dedicated to higher education, research and innovation, at least one third of investments under this latest programme will go towards the green transition (updating farming equipment, decarbonising industry, supporting the transformation of cities, etc.). Another hallmark of PIA 4 is its decentralized focus: France's regions will be involved in developing national strategies to accelerate innovation and in implementing 'local demonstrators' to test the effectiveness of new ideas in real-world conditions. More specifically, €12.5 billion has been earmarked for 'guided' innovation in the most promising markets, where France is particularly strong. The aim is to give the French government the ability to adapt to issues related to global competition, by defining investment priorities that tackle these new challenges. PIA 4's 'guided' approach therefore consists in targeting several priority markets and technologies, to support businesses and research laboratories with the development stages in line with the maturity of innovations. The remaining €7.5 billion will be used to give greater visibility to higher education (research universities, government-supported leading laboratories), research and innovation (teaching hospitals, technical research institutes) bodies. The aim is to make France the most fertile and attractive country in Europe for students, professors, researchers and entrepreneurs.

En savoir plus : [Communiqué de presse](#), [Dossier de presse](#), [Bpifrance.fr](#)

3490 - EQUIPEX + PIA 3: two of the selected projects are backed by the Occitanie-Toulouse INRAE centre.

Study, characterize and utilise the building blocks of living things (organisms, tissues, cells, molecules, proteins) to cultivate knowledge, innovate and develop new tools: these are the aims of the two strategic facilities backed by the INRAE Occitanie-Toulouse centre that have been selected by the EQUIPEX+ third investments for the future programme (PIA 3). One is the ALADIN project, which aims to accelerate the development of biocatalysis for industrial biotechnology (see article No. 3491 of this edition), and the other is MetEx+, the aim of which is to study metabolism at every stage of biological complexity, from populations to individual cells. The latter intends to develop tools to ensure interoperability, reuse and standardisation of data for large-scale metabolomic studies, as well as the biological contextualisation of the data. MetEx+ hopes to improve understanding of the complexity of metabolism at the level of an organism by developing the fluxomics of the entire organism to get an overall understanding of the actual dynamics and the biological integration of metabolism. Last, with the programme partners (INRAE, CEA, CNRS, Inserm, INSA, UPMC Sorbonne Universities, and Toulouse 3, Bordeaux and Clermont Auvergne Universities), it intends to increase analytical performance beyond current limits to study the metabolomics and fluxomics of individual cells.

Both facilities, open to all related scientific communities as well as businesses, encourage synergies between teams and disciplines, as well as between public and private research: major advantages in a highly competitive international environment.

En savoir plus : [INRAE.fr](#)

3491 - The Active Learning to Accelerate biocatalyst Development for INdustrial biotechnology (ALADIN) project: a €1 million grant for TWB.

Selected in late December 2020 following the last EQUIPEX call for proposals for structural research facilities (part of the PIA3 investment programme), the purpose of the ALADIN project is to accelerate the development of biocatalysts for industrial biotechnology. Coordinated by TWB and backed by INRAE, it brings together TBI, MICALIS and Genoscope (CEA). The project draws on a combination of synthetic biology and artificial intelligence to explore natural genetic diversity, exploit it to develop new catalysts (enzymes and microorganisms) and quickly develop the knowledge required to better understand biological systems. The project plans to create a technology platform that can be used by public and private research programmes to accelerate the development of projects using biotechnologies.

This national platform will strengthen the French arm of the Industrial Biotechnology Innovation and Synthetic Biology Accelerator (IBISBA) within the European IBISBA framework.

TWB will use the grant to add to the facilities already in place for strain engineering, flow cytometry and analytics, and offer new services.

En savoir plus : [Toulouse White Biotechnology.com](https://www.toulousewhitebiotechnology.com)

3492 - iGEMINI project: producing nutritional yeasts enriched with provitamin A for astronauts on space missions.

After several months of preparation and a nine-day competition, the Toulouse-based team iGEM, formed of eight students from Toulouse (three from Paul Sabatier University and five from INSA Toulouse), won second place in the 'undergraduate' category (which had 125 applicants) in the iGEM 2020 worldwide synthetic biology competition organised by Massachusetts Institute of Technology. This was the first time a Toulouse-based team had won a prize in the competition, and was a boon for France, as it was only the second time any French team had made the podium. The team, supervised by researchers and research professors at Toulouse Biotechnology Institute ([TBI](#), CNRS/INRAE/INSA Toulouse) and the Centre de Biologie Intégrative (CBI – CNRS / UT3 Paul Sabatier) in Toulouse, and supported, among others, by TWB, designed a production system for nutritional yeasts enriched with provitamin A, intended for consumption by astronauts. These food supplements aim to mitigate the loss of the nutritional value of vitamins during long missions in space. This novel, near-autonomous system uses resources that are in low demand on spacecraft. It also lets astronauts choose the taste of their yeast to suit their preference, via a light-regulated system.

Info: This project could also have its uses on Earth.

More information: [Project website](#)

En savoir plus : [Communiqué de presse](#), [Toul Eco.fr](#), [20 Minutes.fr](#)

3493 - Lignin to BioAromatics project: developing production processes for bio-aromatics formulated with lignin from wood.

The Norwegian company Borregaard, specialising in chemicals produced by biorefining wood, announced that it had received a grant of 15.7 million Norwegian kroner (around €1.5 million) from the Research Council of Norway for its Lignin to BioAromatics project. With a total budget of 39 million Norwegian kroner (around €3.7 million), the project's aim is produce replacements for aromatics of petrochemical origin that can be used as additives in detergent, packaging and even organic electrolytes. Conducted in collaboration with Lund University (Sweden) and Mainz University (Germany), the project is expected to start this year and run for three and a half years.

More information: [Press release](#)

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

3494 - MetaPath project: improving our understanding of the metabolism of microbial ecosystems to limit additives in food.

The expertise developed by a team of researchers at Toulouse Biotechnology Institute ([TBI](#), CNRS/INRAE/INSA Toulouse) on the analysis of the metabolism of living beings has paved the way for the laboratory to become an academic partner of the MetaPath project and mount this project with the start-up Abolis Biotechnologies, which specialises in IT, and two industrial companies, Bel and Lesaffre. MetaPath, which hopes to begin experiments in early spring 2021, intends to develop a set of tools – including analytical methods and software – to improve our understanding of the metabolism of microbial ecosystems involved in fermentation, for example Bel cheese or Lesaffre breadcrumbs. According to Florian Bellvert, a CNRS research engineer and co-director of metabolomic networks for the Metatoul platform since 2014: *'The software will integrate a large amount of genomic (DNA), transcriptomic (RNA), proteomics (protein) and metabolomics (metabolite) data. The goal will be to understand, model and optimise the biochemical reactions of microbial consortia of bacteria and yeast, to limit the addition of chemical additives which are often used to improve the taste, texture or shelf life of food.'* The integrated IT solution to help us understand complex microbial systems, which should be operational by the time Bpifrance funding comes to an end in the next four years, could ultimately be used in other applications, such as the treatment of disruption of the microbiota or soil remediation, via a better understanding of biological decomposition.

En savoir plus : [CNRS.fr](https://www.cnrs.fr)

3495 - OPTISOCHEM: payment of the second funding instalment.

The industrial biotechnology company Global Bioenergies, coordinator of the OPTISOCHEM project, announced that the European BBI-JU agency had transferred €2.17 million to the project members, €902,000 of which went to Global Bioenergies. This funding marks the project's move into its third and final phase: isobutene molecules are assembled together via oligomerization to obtain a range of liquids of increasing viscosity. The specific properties of these liquids make them especially sought-after ingredients for uses in cosmetics, lubricants, rubber, plastics, solvents and fuel for land vehicles or aircraft. According to Bernard Chaud, director of industrial strategy at Global Bioenergies, *'The challenge of the project's third and final phase will be to optimise the economic viability of the entire value chain.'*

Recap: The OPTISOCHEM project goal is to set up a channel to replace fossil-based isobutene derivatives with natural-origin isobutene, produced by transforming wheat straw. In addition to Global Bioenergies, industrial companies Clariant and INEOS, Technip-FMC, IPSB and Linz Energy Institute are involved in the project.

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

3496 - Funding for two projects on the biosecurity of genetically modified organisms used in biotech applications.

In the framework of its Secure Biosystems Design Program, the US Department of Energy's Office of Biological and Environmental Research ([BER](#)) will invest \$10 million in two research projects to analyse and reduce environmental risks that may be caused by genetically modified organisms (GMOs) used in biotech applications. Researchers involved in the IMAGINE BioSecurity project are focusing on predicting and controlling the biosecurity risks of GMOs that may be used in advanced industrial applications. To do this, they will develop a platform to help engineers design, generate, and analyse biological containment strategies. The goal is to create an extensive library of microbial strains, biocontainment modules, and testing platforms, serving as a guide for creating secure biosystems for an array of agriculture and bioenergy applications.

Researchers involved in the Secure Ecosystem Engineering and Design (SEED) project, conducted with Oak Ridge National Laboratory, will study the biotic and abiotic processes that drive how microbes establish, spread, and impact ecosystems. The scientists think that improving our understanding of these factors will lead to innovative bioengineering approaches that can boost the productivity of the bioeconomy. The SEED team will develop cutting-edge tools and genomic resources that guide risk assessment and prevent unwanted microbial invasions.

More information: [Press release](#)

3497 - Carbios takes stock of its 2020 patent portfolio.

Four new patent families on novel optimised PET enzymes joined the French company's portfolio in 2020, substantially consolidating its pioneering position in the identification, development and optimization of enzymes that break down plastic and textile polymers. Over the course of the year, 11 patents were granted across all subjects, including 7 in the United States, bringing the total number of patents granted to 33. Of particular note, two patents were granted in the United States on the PET enzymes described in the journal Nature. At the same time, Carbios completed the coverage of its long-standing family of patents on its enzymatic PET recycling process with new patents granted in Canada, China and India in addition to those already obtained in the United States, Europe and Japan. On 31 December 2020, the Carbios portfolio included 38 patent families, 18 of which protect its recycling process and the associated proprietary enzymes that break down PET.

More information: [Press release](#)

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

3498 - Global Bioenergies delivers the first batch of sustainable cosmetic-grade isododecane.

The industrial biotechnology company announced the delivery of the first commercial batch of sustainable cosmetic-grade isododecane, specifying that it would be used in long-lasting makeup. It plans to create a new brand. Around 300,000 units can be produced using this first batch. They will enter the long-lasting makeup market, which accounts for around one billion units per year globally.

Recap: Isododecane is a key ingredient in cosmetics and is used for its emollient properties in a huge number of skin and hair care products. Proportionately, it is also the main ingredient in long-lasting makeup such as waterproof mascara and long-lasting liquid lipstick. It can account for up to 50% of the volume of these formulations.

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

3499 - METabolic EXplorer (METEX): glycolic acid scale up and an update on the progress of METEX NØØVISTA.

The French biochemistry company announced that it had obtained a grant of €9.6 million through *France Relance*, an economic recovery plan. It will use this funding to advance its plan to invest in the first Glycolic Acid (GA) industrial production unit in France and Europe. There are two phases to the project, which is currently expected to cost between €40 and €45 million:

- The developments and research required to finalise the investment plans, scheduled for late 2021: choice of site, engineering studies, validation of the commercial offer, etc.
- Investment in the construction and launch of an industrial facility with a capacity, in the initial phase, of 2,500t/year.

Three geographic locations are currently under consideration for this unit: the Carling site, which has the advantage of its proximity to the METEX NØØVISTA unit, and two other sites in the north of France.

Recap: GA is a leading anti-ageing active ingredient used in cosmetics, as well as a precursor of two biodegradable polymers: polyglycolic acid (PGA) and poly lactic-co-glycolic acid (PLGA). The biodegradability of these polymers is determined by the proportion of GA they contain. This property is currently utilized in medical applications to produce absorbable sutures, and will in the future be used to make 100% biobased plastics with shorter life cycles. Furthermore, new applications such as biodegradable bioplastics show potential for additional growth.

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

Since last June's announcement on the impact of the health crisis on the timetable for the construction of the METEX NØØVISTA plant, work on the production unit has continued in line with the revised schedule, with production still set to begin in the second quarter of 2021. METEX also announced the unveiling of a [website](#) to mark the upcoming launch of the production unit.

Recap: METEX NØØVISTA is a joint venture between majority shareholder METEX and the Bpifrance-managed Société de Projets Industriels. In the first phase of operations it will produce and market 5kt of 1,3 propanediol (PDO) and 1kt of butyric acid (BA) for markets such as cosmetics, animal nutrition, flavours and fragrances, and technical uses to boost performance.

More information: [Press release](#)

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

3500 - INRAE2030: INRAE launches its strategic priorities for the next ten years.

The Institute's strategic plan for the next ten years, which was put together with the contributions of 2,600 voices from within the Institute and more than 100 from outside, including international partners, is organised around five major scientific priorities (SP) and three policy priorities (PP):

SP No. 1: Responding to environmental concerns and their associated risks.

SP No. 2: Accelerating agroecological and food transitions in a way that resolves economic and social challenges.

SP No. 3: Bioeconomies based on the efficient circular use of resources.

SP No. 4: Promoting a holistic approach to health.

SP No. 5: Facilitating transitions by putting data sciences and digital technologies to work.

PP No. 1: Placing science, innovation and expertise at the centre of our exchanges with society to have a greater impact.

PP No. 2: Aiming to better engage with university partners in France and to become a key collaborator in European and international partnerships.

PP No. 3: Establishing social and environmental responsibility (CSR) as a common objective.

The plan will now be rolled out in programmes in all scientific divisions and all of the Institute's partnerships.

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

Microalgae

3501 - New leads to improve the flocculation harvesting technique.

A team at Toulouse Biotechnology Institute ([TBI](#), CNRS/INRAE/INSA Toulouse) and the [LAAS-CNRS](#), together with researchers from the [Catholic University of Louvain](#) (Belgium), have shown, using atomic force microscopy, which molecular mechanisms are behind microalgae flocculation (a common harvesting technique that consists in aggregating the cells with a flocculating agent so they can be removed from the water more easily), as well as the influence of the pH of the culture medium on the nature of the mechanism. The researchers investigated harvesting *Chlorella vulgaris* microalgae with chitosan, a commonly used natural flocculant that has the advantage of not contaminating the biomass.

This study is paving the way to a better understanding of a key stage in the production of biofuels.

Next step: Identify exactly which molecules in the cell wall are involved in the interaction with chitosan (currently thought to be polysaccharides) to improve control of the flocculation harvesting technique.

Publication: Nanoscale Evidence Unravels Microalgae Flocculation Mechanism Induced by Chitosan. Journal: ACS Applied Bio Materials. DOI: 10.1021/acsbm.0c00772.

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

3. STRATEGIC INTELLIGENCE: BUSINESSES & MARKETS

3502 - Afyren

The French green chemistry company announced that construction of a low-carbon, zero-waste biorefinery, '*the only one of its kind in the world*', had begun at the Chemesis industrial platform in Carling Saint-Avold (Moselle, France). Built through Afyren Neoxy, a joint venture with Bpifrance, the future unit, which will have an annual capacity of 16,000 tonnes, will convert sugar beet into acetic acid, propionic acid or butyric acid via fermentation processes. These organic acids will be used as chemical intermediaries for applications in the human and animal nutrition sectors, as well as cosmetics, pharmaceuticals, flavours and fragrances, lubricants, agrochemistry and detergents and cleaning products. For the purposes of the project, Afyren has raised over €80 million in funding from public and private partners, including the European Community, the Grand Est region, the Communauté d'Agglomération de St-Avold Synergie (CASAS) and its partner banks. Afyren has also received support from the European Union and a grant of €20 million via the public-private partnership platform Biobased Industries Joint Undertaking (BBI-JU). Afyren was also able to count on Total, one of its key partners, which provided operational support for the AFYREN NEOXY project through its Total Développement Régional (TDR) entity.

The industrial unit is expected to be commissioned in early 2022.

Recap: The process developed by Afyren can also be used with sugar cane, starch or maize.

More information: [Press release](#)

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

3503 - Amyris

The American biotechnology company announced that its topical formulation for the treatment of acne, which contains two ingredients derived from sugar-cane fermentation, demonstrated far superior efficacy in terms of magnitude of acne reduction and the time it takes for such effect compared with ten other standard acne treatments currently available in the United States. This pre-clinical study was conducted by Princeton Consumer Research Corp (PCRC), the global specialist in cosmetic testing and clinical trials for worldwide claims substantiation.

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

Amyris announced that it would offer a new range of skincare products under the Terasana brand containing cannabigerol (CBG) obtained via its patented sugar-cane fermentation technology. Early results demonstrate that these products are even more efficacious than their equivalents when formulated with Amyris Neossance™ squalane. They can be used to treat dry skin, skin flaking, irritation, redness and blemishes.

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

3504 - Avantium

The Dutch specialist in renewable chemistry announced that it had received an initial €7.5 million grant from National Programme Groningen (the Netherlands) to begin construction of a plant capable of producing 5 kilotonnes of furandicarboxylic acid (FDCA). This first commercial unit, located at Chemie Park Delfzijl (the Netherlands), will be brought into service in 2023.

Recap: This grant is the result of an agreement entered into by the two partners in January 2020, for €30 million in total.

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

3505 - BASF & BillerudKorsnäs

The German chemicals company and the Swedish [packaging manufacturer](#) have developed a flexible, multi-layer packaging approved for food contact and suitable for home composting. Designed as an alternative to fossil-origin products, it is made of ConFlex® Silk paper (a compostable kraft paper developed by BillerudKorsnäs), an Ecovio® sealing layer (BASF's certified home-compostable and partly biobased biopolymer) and BASF's water-based adhesive Epotal® Eco 3675 X, which joins the film to the paper. According to the designers, the barrier properties of this packaging can be '*individually adjusted*' to suit the food products to be wrapped. It is puncture resistant, shows good printability and excellent heat-sealing properties, and can be used in standard packaging machines.

More information: [Press release](#)
En savoir plus : [Emballages Magazine.com](#)

3506 - Braskem

To mark the tenth anniversary of the launch of its I'm Green™ portfolio, the Brazilian manufacturer of biopolymers took stock of the products in the range, which has grown over the years, as well as the impact of its products in Brazil and further afield and the various awards won.

Info: Development of the biobased I'm Green™ polyethylene – a renewable resin and the first product launched under the brand – has prevented the emission of over 5 million tonnes of CO₂ in ten years.

More information: [Press release](#)

3507 - Carbiolice

The Carbios subsidiary announced that its Evanesto® solution had received the Solar Impulse Efficient Solution label, which is awarded to cost-effective solutions that protect the environment. To receive the label, Evanesto® was evaluated by a group of independent experts according to five criteria covering three main themes: feasibility, the environment and profitability. This innovation joins the #1000solutions challenge, an initiative of the Solar Impulse Foundation, which selects solutions that can protect the environment in a profitable way and presents them to decision-makers to fast-track their implementation.

Recap: Evanesto® is an enzyme-based solution that can make plant-origin plastic 100% compostable, even in the home. Plastic packaging containing this additive completely disappears in compost in under 200 days – as fast as an apple core.

More information: [Press release](#)

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

3508 - Corbion

The Dutch specialist in biobased products announced that it would be increasing its lactic acid production capacity in North America by around 40% to meet growing demand for natural ingredients in the region. To do so, Corbion plans to increase the production capacity of its plant in Blair (United States).

More information: [Press release](#)

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

3509 - Creo

Through its partnership with Genomatica, which led to the creation of a technology platform to ferment plant-based dextrose and glycerol, the American [company](#) produced 12,500 litres of cannabigerol (CBG) and cannabigerolic acid (CBGA) at demonstrator scale. Commercial production is expected to begin in the second quarter of 2021.

More information: [Press release](#)

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

3510 - Deinove

The French biotech firm announced that it was strengthening its Business Development team with the appointment of Hervé Ansanay as Director and Corentin Chaboud to the new position of Grant Officer. It wants to intensify the implementation of profitable strategic partnerships and access to non-dilutive financing to support the development of antimicrobial therapeutic solutions.

More information: [Press release](#)

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

3511 - FLITE (Fuel via Low Carbon Integrated Technology from Ethanol)

The FLITE consortium announced that it would build the first facility in Europe to produce sustainable aviation fuel (SAF) equipped with LanzaTech's Alcohol to Jet (AtJ) technology. The future pre-commercial unit will produce over 30,000 tonnes of SAF each year and will open the door to production of SAF in Europe and around the globe. The project received €20 million in grant funding from the European Horizon 2020 programme and is a major milestone on the aviation industry's path to considerably reducing its carbon footprint. Entry into service is scheduled for 2024.

Recap: The FLITE consortium is steered by the Dutch producer of jet fuel, SkyNRG, and includes the New Zealand-based carbon recycling biotech company LanzaTech, the German applied research institute Fraunhofer-Gesellschaft, the energy and sustainability strategy consultancy E4tech, and the Swiss organisation RSB.

More information: [Press release](#)

3512 - Gevo

The American biofuel producer announced plans to buy 239 acres (around 967,199m²) of land in South Dakota (United States) and build a facility there to produce 45 million gallons (around 170 million litres) of renewable fuel, including jet fuel, each year. It will be Gevo's third American production unit, following in the footsteps of the ones in Luverne (Minnesota) and Silsbee (Texas).

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

3513 - Iterg

The technical centre announced that it had expanded its test laboratories by 195m² to support its drive for development in the analysis of fats and oils, both pure and in complex matrices. The new building, which hosts the analytical production of the gas chromatography laboratory, will facilitate the expansion of the other labs: liquid chromatography, UV-Vis spectroscopy, atomic absorption spectroscopy, NMR, indices and extractions. It should also increase the analytical capacities for the oil, food, cosmetics and pharmaceutical industries. Iterg invested almost €700,000 in the property and around €300,000 in analytical material with the support of the Nouvelle-Aquitaine Region. Iterg's analysis and expertise department now has a surface area of 1,180m².

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

3514 - Michelin

The French group announced that its tyres would be made of 100% sustainable materials (renewable, recycled or biobased) by 2050. To achieve this goal, Michelin will draw on its own impressive R&D capabilities and partnerships with Axens, IFP Énergies Nouvelles, Pyrowave, Carbios and Enviro.

Info: Almost 30% of the components used by the Michelin group to produce tyres are currently made of sustainable, natural origin or recycled materials.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#), [Challenges.fr](#), [Capital.fr](#), [La Presse.ca](#)

3515 - Opale

[Opale](#) responded to a call for proposals launched by the Paris-based engineering school Agro Paris Tech and has been chosen to design and build an anaerobic digestion unit on the experimental farm in Grignon (Yvelines, France). This unit is designed to yield around 50 Nm³/hr and process 10,000 tonnes of input from the experimental farm and a local stables.

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

3516 - PILI

The Toulouse-based company's 'Biopigments' project, the aim of which is to scale up the production of biobased pigments for the industrial paints and coatings industry, was one of the projects selected under the 'Résilience' call for proposals corresponding to the industrial arm of the economic recovery plan announced by the French government last September. With this grant of over €1 million, Pili can start producing biobased pigments for paints and inks on an industrial scale as early as this year. The project is expected to lead to the creation of 5 direct jobs and 20 indirect jobs.

En savoir plus : [LalettreM.fr](#), [ToulEco.fr](#)

3517 - Total

Total wants to change its name to TotalEnergies in a nod to its new strategy to become a multi-energy group and its ambition to achieve carbon neutrality. The shareholders will vote on the change of name at the general meeting scheduled for 28 May 2021.

En savoir plus : [Total.com](#), [La Provence.com](#), [Le Figaro.fr](#), [Les Echos.fr](#), [L'Usine Nouvelle.com](#)

3518 - TWB

TWB moved into a new 3,300m² building on the INSA campus in Toulouse to keep in step with its growth and the development of its activities. The new premises, which house all the support services as well as the technology platforms, host 5 start-ups and over 100 people in total. The new location is strategic for the development of the industrial biotechnology sector in Toulouse and its international outreach: TWB can now be found alongside two major partners – TBI and the Bio-Industries CRITT – and is part of a 15,000m² industrial biotechnologies complex. This complex is the only one of its kind in France and covers all the R&D stages, from lab to pre-industrial pilot. The project, which cost a total of €7 million, was financed by the State-funded contract for development of the Occitanie region (CPER) and Projet Campus Toulouse, topped up by TWB's own funds.

More information: [Toulouse White Biotechnology.com](https://www.toulousewhitebiotech.com)

En savoir plus : [Toulouse White Biotechnology.com](https://www.toulousewhitebiotech.com), [Formule Verte.com](https://www.formuleverte.com), [Info Chimie.fr](https://www.infochimie.fr), [Biotechinfo.fr](https://www.biotechinfo.fr), [La Dépêche du Midi.fr](https://www.la-depêche-du-midi.fr), [LalettreM.fr](https://www.lettrem.fr)

Two pitch contests were organised to promote entrepreneurship as part of the fourth TWB® Start-Up Day. 'Fast track it!', the first contest, was open to European start-ups created less than eight years ago that are still in the development phase. The start-up behind the most innovative solution would be selected to receive support. This year, Spanish start-up [ZYMVOL](https://www.zymvol.com) took home the prize. ZYMVOL, which uses its expertise to discover and optimise biocatalysts for industry using computer-aided innovation, will receive services at TWB's technology platforms of a value of €50,000, and marketing opportunities provided by the IAR cluster (a competition partner).

'Go for it!', the second competition, which looks for the most promising industrial technology idea, research or innovation, was won by emerging Swiss start-up [FluoSphera](https://www.fluosphera.com). The start-up designs testing systems to predict the effects of compounds (chemicals, drugs, etc.) on consumers and/or patients. FluoSphera will receive four days of mentoring services from TWB and its ecosystem, and the competition partners: La French Tech Toulouse and ShakeUp Factory.

More information: [Toulouse White Biotechnology.com](https://www.toulousewhitebiotech.com)

En savoir plus : [Toulouse White Biotechnology.com](https://www.toulousewhitebiotech.com)

Licensing agreements

3519 - Clariant

The Swiss speciality chemicals company announced that a licensing agreement for its sunliquid® technology (which converts agricultural residues into cellulosic ethanol) had been signed with the Chinese company Harbin Hulan Sino-Dan Jianye Bio-Energy. The agreement, which comprises a basic engineering package, the provision of technical services and the supply of starter cultures from Clariant's proprietary enzyme and yeast platform to process feedstock, opens the door for the Chinese company to build one of the first second-generation biofuel plants in Heilongjiang province. The new unit will have the capacity to process 125,000 tonnes of corn stover and produce 25,000 tonnes of cellulosic ethanol per year.

More information: [Press release](https://www.clariant.com/press-releases)

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

New joint ventures

3520 - Fermentalg and Suez

Strengthened by feedback following a five-year partnership, the microalgae specialist and the water and waste management specialist announced the signature of a memorandum of understanding for the creation of a joint venture in the first half of 2021. The joint venture will be equally owned, and develop algae photobioreactors capable of capturing CO₂ by biomimicry. The new algae photobioreactor will use the [Carbon sink](https://www.fermentalg.com/carbon-sink) and the [Combin'Air](https://www.fermentalg.com/combin-air), which have improved the selection of microalgal strains, developed new lighting technologies and identified high added

value bioproducts that validate the environmental and economic benefits of the model. In addition, this innovation will pave the way for the development of circular loops, primarily by producing products that can be used in the fields of biocontrol, nutrition and animal health.

The two partners also announced that other partners would be able to invest in the upcoming joint venture.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [TradingSat.com](#), [Formule Verte.com](#), [L'Usine Nouvelle.com](#)

Product launches

3521 - Bemis Associates

The [American company](#) specialising in the manufacture of thermoplastic films, tapes and adhesives for bonding, announced the launch of its first Sewfree® product made using renewable material, in partnership with another American company, DuPont Tate & Lyle Bio Products. The new adhesive, named Sewfree® 3700, contains 25% biobased Susterra® propanediol developed by DuPont Tate & Lyle Bio Products. This plant-based building block delivers high performance across a wide variety of polymer applications. The new biobased adhesive was engineered to replace elastics and bulky seams in garments. It allows for sleeker lines, softer corners and stronger seams.

More information: [Press release](#)

En savoir plus : [Mode In Textile.fr](#)

3522 - DuPont Nutrition & Biosciences

The American group announced the launch of the SYNERXIA® Gemstone Collection, a new range of high-performance yeasts for American ethanol producers. The new collection from the XCELIS® platform includes SYNERXIA® SAPPHIRE and SYNERXIA® RUBY: two innovative and more robust higher-yield yeasts designed for ethanol producers.

More information: [Press release](#)

3523 - Novozymes

The Danish biotech company specialising in enzymes announced the launch of Fortiva® Hemi, a new enzymatic solution intended for ethanol producers that creates the opportunity for an increase in oil yield of over 10% during liquefaction and up to 1% additional ethanol during production. This new product can be used in all plants as it is effective across the broadest pH and temperature ranges.

More information: [Press release](#)

Fundraising

3524 - Amoéba

The specialist in biological biocides announced the issuance of the tenth tranche of bonds convertible into shares (OCAs) under its bond financing with profit-sharing programme, namely 26 OCAs numbered from 235 to 260, fully issued to Nice & Green SA. This issuance is part of the agreement entered into with Nice & Green SA on 17 December 2019 and amendment No. 1 to the agreement concluded on 9 March 2020, with a view to setting up a bond financing with a profit-sharing programme through the issuance of 312 OCAs with a nominal value of €20,000 each, representing a total nominal bond issue amount of €6,240,000 (the "Issuance Agreement").

More information: [Press release](#)

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

Amoéba announced the signature of a new contract for the issue of bonds convertible into shares with a profit-sharing programme (OCAPI) and a subordination agreement between Amoéba, Nice & Green SA and the European Investment Bank (EIB). This new line of credit, for a maximum of €23 million and a duration of 24 months, should enable Amoéba to finance its core activities, particularly the development of its biocontrol product, and restructure its debt. Amoéba can suspend or terminate the line of credit at any time.

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

3525 - Eiffel Investment Group

The [asset manager](#) specialising in business financing announced the launch of Eiffel Essentiel, a growth capital fund dedicated to eco-friendly businesses focused on the green transition. With an investment capacity of €300 million to begin with (hopefully rising to €500 million at its final closing late 2021 or early 2022), Eiffel Essentiel is planning to make investments of up to €50 million in about fifteen eco-friendly French and European small- to intermediate-sized businesses working towards the green transition, with the potential to become leaders in their sector. Eiffel Essentiel will participate in the equity and quasi-equity and position itself as a key minority shareholder alongside shareholder managers, the owners of family-run businesses, and industrial shareholders. Eiffel Essentiel has 12 high-calibre investors right out of the starting blocks, including the European Investment Bank (the leading fund contributor, with a contribution of €80 million), Bpifrance – which is investing in equity via the Fonds de Fonds Growth and the PIA investment programme – AG2R La Mondiale, Covéa, Pro BTP, CIPAV, La Lux, Suravenir, L'Auxiliaire and Banque de France, together with families and entrepreneurs who are experts in the sector. The fund will place its first investment in the near future.

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

3526 - EnginZyme

The Swedish [company](#) that has developed an enzyme-based platform for the sustainable production of chemicals announced that it had closed a new €11 million Series A funding round. This new operation was managed by [Industrifonden](#), Sweden's largest deep tech venture capital firm, with the participation of [SEB Greentech VC](#) and existing shareholders. These additional funds will help it demonstrate that, in an industrial context, its technology is more cost-effective and easier to use than existing biomanufacturing processes.

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

3527 - European Circular Bioeconomy Fund (ECBF)

Europe's first venture capital [fund](#) concerned exclusively with the bioeconomy and the circular bioeconomy announced that it had closed a second fundraising round for €93 million. New investors in this second round include Swiss food and beverage group Nestlé; Finnish producer of sustainable fuels Neste; German insurance firm Volkswahl Bund Versicherungen; private German bank Hauck & Aufhäuser Privatbankiers; and the German promotional bank of North Rhine-Westphalia (NRW), NRW.BANK. The European Circular Bioeconomy Fund is now supported by nine investors in five European countries and currently has a budget of €175 million to stimulate sustainable investment.

Recap: The ECBF has set its sights on a budget of €250 million so it can make a significant contribution to the European Green Deal and make Europe carbon neutral by 2050. Other investors are therefore 'welcomed at ECBF until August 2021.'

More information: [Press release](#)

3528 - Global Bioenergies

The industrial biotechnology company announced the exercise of all 1,500,000 stock subscription warrants (BSA I) issued under the credit line established on 25 August 2020 with the investment firm Kepler Cheuvreux acting as

financial intermediary. The exercise of these warrants raised a little over €6.5 million. The board of Global Bioenergies appreciated the success of this first tranche, and decided to set up a second tranche under the same conditions through the issue of 2,500,000 new warrants (BSA II), each granting the issue of a new share if exercised. The Managing Director agreed to the issue of the 2,500,000 new warrants. Under the terms of the agreement, Kepler Cheuvreux will exercise all or some of the new warrants over the initial period of 24 months, ending in August 2022, in several draws and at its own initiative, provided that the contractual terms and conditions are fulfilled. For information, if all the warrants in this new tranche were to be exercised at the current price, the amount raised would equate to around €20 million (a potential amount, not guaranteed).

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

3529 - Xampla

Following an initial finance round that brought in £2 million (€2.2 million) last April, the Cambridge University (United Kingdom) [spin-out](#) announced that it had closed a £6.2 million (€7 million) seed finance round. The operation was led by [Horizons Ventures](#), but Xampla is also backed by [Amadeus Capital Partners](#), [Cambridge Enterprise](#) and [Sky Ocean Ventures](#). With these additional funds, the start-up intends to accelerate the replacement of microplastics and single-use plastics with plant-based alternatives.

More information: [Press release](#)

New partnership agreements

3530 - Amoéba

The producer of a biological biocide and a biological pest control product (still undergoing testing) and [Philagro France](#), a company specialising in crop protection, signed a Letter of Intent (LOI) concerning the development and marketing of a biological pest control product to tackle grapevine downy mildew in France. The purpose of the LOI is to establish the outlines of the collaboration between the two companies before and after the marketing of the product in France, with a view to signing a commercial partnership agreement within 12 months. Amoéba will perform the regulatory tests required to register its product and Philagro will fine-tune the marketing and commercial positioning of the product through field trials.

More information: [Press release](#)

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

Amoéba announced the signature of a Material Transfer Agreement with the [Gowan](#) group, a leading supplier of agricultural inputs (crop protection products, seeds and fertilizers) in the United States. Under this agreement, Amoéba will give its experimental products containing the lysate of the amoeba *Willaertia magna* C2c Maky to the Gowan group so it can carry out its own field trials to evaluate the performance of these products in preventing fungal diseases on a range of crops in the American market. Together, the partners are embarking on a targeted research phase, which, if successful, could open the door to the commercial development of Amoéba's biocontrol solutions in the United States.

More information: [Press release](#)

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

Amoéba announced the signature of a Term Sheet on the development and marketing of its biological pest control product to tackle grapevine downy mildew in Switzerland with **Stähler Suisse SA**, one of Switzerland's leading distributors of phytosanitary products and biological pest control solutions. The purpose of the Term Sheet is to establish the terms of the collaboration between the two companies before and after the marketing of the product in Switzerland, with a view to signing a commercial partnership agreement within 12 months. Amoéba will perform

the regulatory tests required to register its product and Stähler will fine-tune the marketing and commercial positioning of the product through field trials.

The new non-exclusive agreement follows on from a previous partnership between the two companies, the purpose of which was to assess the performance of the fungicide containing the lysate of the amoeba *Williaertia magna* C2c Maky.

More information: [Press release](#)

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

3531 - Amyris & DSM Nutritional Products

The American biotechnology company concluded a \$50 million (around €40 million) strategic transaction with DSM, a supplier of ingredients for the feed, food, pharmaceutical and personal care industries. This is the first of three anticipated transactions described during a recent virtual investor mini-series event on 15 December 2020. Under the terms of the agreement, Amyris will grant DSM the rights to supply Farnesene to Givaudan.

More information: [Press release](#)

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

3532 - Andermatt Biocontrol Suisse AG & Ceradis Crop Protection

The [family-run company](#) specialising in the development of products formulated with baculovirus and a leading biocontrol distributor in Switzerland entered into an exclusive distribution agreement to sell [Ceradis'](#) new fungicide CeraSulfur in Switzerland. Ceradis develops and sells environmentally-friendly products for plant nutrition & crop protection. CeraSulfur is the first bio-sulphur fungicide made from agricultural waste. The sulphur is made by bacteria that turn hydrogen sulphide (H₂S), a byproduct of biogas production, into elemental sulphur. This organic sulphur has a different chemical structure and a smaller particle size, making it more effective than conventional sulphur. It is also hydrophilic, making it far easier to handle and combine with other products.

More information: [Press release](#)

3533 - Cargill, IFP Energies Nouvelles (IFPEN) & Axens

The three companies announced that they had agreed to further develop and scale a biobased acrylic acid production process. Their goal is to commercialise technology to convert lactic acid into acrylic acid. This technology was developed to laboratory scale by Proctor & Gamble (P&G), winning the 2020 affordable green chemistry award from the American Chemical Society. Cargill obtained a licence for the technology in early 2020. This collaboration draws on the companies' complementary expertise: Cargill's experience in biobased materials, IFPEN's expertise in the field of catalyst and bioprocess development, and Axens' skills in catalyst manufacturing and the scale-up of design processes. Although it will be several years before it is ready to be deployed at commercial scale, test samples could be ready for potential customers sometime within the next 12 months.

More information: [Press release](#)

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

3534 - DuPont Nutrition&Biosciences & Kemira

The subsidiary of American chemicals company DuPont and Finnish chemicals company Kemira announced the conclusion of an exclusive partnership for the development and commercialisation of DuPont's enzymatic polymerization-based polysaccharide platform technology. Under the terms of the partnership, DuPont will provide Kemira with access to its newest material platform technology, which uses enzymatic polymerization to design and produce polysaccharide materials directly from simple sugars. Kemira will provide the application development expertise and the market access required to jointly develop and commercialise new ranges of biobased and inherently biodegradable product lines to strategic markets including paper and board, water treatment and the oil & gas industries.

More information: [Press release](#)

3535 - ECB Group & BP

The Brazilian [group](#) specialising in agro energy entered into an agreement with the British petroleum group for the sale of over one billion litres of biodistillate from 2024. The advanced biofuels will be produced at a biorefinery that will be built in Paraguay. Run by ECB and named Omega Green, the new refinery will have a production capacity of 20,000 barrels a day.

[Info] ECB is the leading Brazilian producer of biodiesel, with an annual capacity of 828 million litres. With this agreement, it will position itself as the leading producer of biodistillate in the southern hemisphere and BP's leading supplier on the continent.

More information: [Press release](#)

3536 - Ercros

The Spanish industrial [group](#) announced that it had reached an agreement with the Consejo Superior de Investigaciones Científicas ([CSIC](#) - higher council for scientific research) and the Centro Nacional de Energías Renovables ([CENER](#) - Spain's national centre for renewable energy) to develop a new bioprocess to produce bacterial polymers. The agreement covers the investigation of biological raw materials right up to their production in a pilot plant. These biopolymers will be used in packaging, agriculture and cosmetics, and in applications where high susceptibility to biodegradation in the environment and domestic and industrial compostability are required. The three partners plan to develop a technology for the industrial production of these sustainable polymers if the results of their collaboration are conclusive.

More information: [Press release](#)

3537 - Elementis & Nxtlevel Biochem

The British chemicals [company](#) and [Nxtlevel Biochem](#), a company specialising in the manufacture of bio-solvents and bioplasticizers formulated with levulinic acid, announced that they had signed a commercial agreement to develop, manufacture and sell a broad portfolio of biobased products. Under the terms of the agreement, Nxtlevel will be responsible for developing and manufacturing biosolvents, while Elementis will handle sales. Both partners also announced that they would launch two new biobased solvents for the industrial paints and coatings sector in early 2021. These biobased solvents can be used as coalescing agents and replace the petrochemical-based solvents used in product formulations.

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

3538 - LanzaTech & TeselaGen

The New Zealand company specialising in carbon recycling through biotechnology and the American [company](#), which has developed a proprietary technology based on artificial intelligence to help businesses successfully design and optimise biological products, announced that they had signed a new multi-year agreement to extend their collaboration until 2025.

More information: [Press release](#)

3539 - Royal DSM & Sympatex Technologies

The Dutch chemicals company announced that it had signed an agreement with Sympatex Technologies, a membrane manufacturer, to accelerate the integration of biobased materials into the sports value chain. To do so, DSM's Engineering Materials division will launch Arnitel®, a new 25% biobased thermoplastic elastomer that will be used by Sympatex to make waterproof, windproof and breathable membranes for sports garments.

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

3540 - Versalis & AlphaBio Control

The chemicals branch of Italian energy group Eni announced that it had signed an agreement with the British-Italian [company](#) specialising in the production of natural formulations to protect crops. The partnership will enable Versalis to develop biobased and biodegradable herbicides as well as biocides for the disinfection of surfaces using active ingredients produced at the Porto Torres bio-chemical platform in Sardinia, Italy. While these two new product ranges are scheduled for sale in Italy in early 2021, both partners announced that they were looking into developing new products in their research laboratories.

Recap: The Porto Torres platform produces biobased polymers and monomers.

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

New investments

3541 - Avril

With the help of a €50 million loan from the European Investment Bank (EIB), the French agri-food group will be able to finance innovative projects in the fields of plant-based protein and biobased materials to replace fossil-based resources in the chemicals sector. The EIB's financial participation in the Avril group's research programmes is part of the 'Juncker' plan set up with the European Fund for Strategic Investments (EFSI).

Info: The Avril group intends to invest €134 million over three years to advance its projects.

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

3542 - Braskem

In the wake of a partnership with Valoren, a company specialising in the development and operation of technologies to transform solid waste into high-quality recycled resins, the Brazilian producer of biopolymers announced that it would invest 67 million Brazilian reals (€10.8 million) in building a recycling line for plastic waste, mainly from households. The new line, which will be built in Indaiatuba (Brazil), will convert just shy of 250 million plastic packaging items (rigid polyethylene and polypropylene used to package food, cleaning, hygiene and beauty products) into 14,000 tonnes of high-quality post-consumer resin (PCR) each year. Entry into service is scheduled for the fourth quarter of 2021.

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

3543 - Ypso-Facto

The French [company](#) specialising in the design of chemical and biotechnological processes will invest €1.4 million – €800,000 of which from the European Regional Development Fund (ERDF) – in the development of its Ypso-Proxima® software suite. Proxima is a process design and evaluation software package that can combine information on experiments with digital simulation, supplemented by user intuition where necessary, to design efficient processes. It is the result of five years of collaboration with major players in the Life Science Industries (big pharma and medium and large CMOs). It delivers time savings and greater flexibility for development, and a rational approach to optimise production processes. It will be launched this summer.

More information: [Press release](#)

Takeovers

3544 - Ginkgo Bioworks & Novogy

The American biotechnology firm announced that it had finalised the acquisition of the main assets of Novogy, a start-up that developed a microbial engineering platform. Ginkgo's bioengineering platform will absorb Novogy's strain assets, intellectual property portfolio and expertise in lipid production. Ginkgo will be able to use these new resources to accelerate the development of a range of commodities, fine chemicals and materials.

More information: [Press release](#)

3545 - Iteq

The industrial technical centre specialising in the field of fats and oils and related products (fats, vegetable oils, oil co-products and minor compounds) announced that it had acquired 92.2% of the shares of Improve SAS, a European platform dedicated to the conversion of plant protein. The new entity will develop applied research into all plant proteins and oils and will offer a full range of services for industries that produce and use plant-origin lipids and proteins: research, production, analysis and expertise. Two minority shareholders, Picardie Energie et Développement Durable and Brie Picardie Expansion, which each hold 3.9% of the shares, will retain their stakes in the capital of Improve SAS.

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

3546 - Total

The French multi-energy group announced the acquisition of [Fonroche Biogaz](#), a company that designs, builds and operates anaerobic digestion units in France. With close to 500 gigawatt hours (GWh) of installed capacity, which doubled between 2019 and 2020, Fonroche Biogaz is currently the French market leader in the production of renewable gas, with a market share of over 10% supplied by its portfolio of seven operational units. Four other projects are in the pipeline. The acquisition price was not announced.

This purchase makes Total a major renewable gas company in France and Europe, and significantly strengthens its presence in the sector, already of a certain stature with its French subsidiary Méthanergy (combined heat and power production from biogas), and PitPoint and Clean Energy (biomethane production and distribution via a network of Bio-CNG/Bio-LNG stations) in Benelux and the United States, respectively. In December 2020, Total signed a Memorandum of Understanding with Clean Energy Fuels Corps to establish a \$100 million 50/50 joint venture to develop renewable gas production projects in the United States. By 2030, Total plans to produce 4 to 6 TWh of biomethane a year.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Les Echos.fr](#), [L'Usine Nouvelle.com](#), [La Tribune.fr](#)

Human resources

3547 - Advanced Biofuels Coalition (LSB)

The [coalition](#) of developers of advanced technologies and producers in the biofuels field announced the re-election of Gloria Gaupman, Clairant's Head of Public Affairs, Group Innovation & Sustainability, to the position of Chairwoman. Further to her nomination, Gloria Gaupman, who has served as Chairwoman since June 2019, said: *'The EU must pull out all the stops in order to reach its climate commitments. For the transport sector, there is not one single and simple solution to substantial CO₂ emission reductions and policymakers must not fall into the trap of "silver bullet thinking". Carbon neutral solutions for existing drive trains and fuelling infrastructure do exist: sustainable, advanced biofuels.'*

More information: [Press release](#)

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

3548 - Deinove

Deinove announced the appointment of Alexis Rideau as Chief Executive Officer on 8 January 2021. Charles Woler, who was acting as Deinove's Interim Chief Executive Officer, will stay on as Chairman of its Board of Directors, a position he has held since 2017.

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

3549 - DMC Biotech

The American [speciality chemicals company](#) announced the appointment of Rusty Pittman as VP of Business Development. Rusty has over 25 years' commercial experience in the chemical, building materials and renewable energy industries. Before joining DMC Biotech, he spent six years at Elevance Renewable Sciences, where he held the position of VP/Head of Marketing and Business Development.

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

3550 - IAR cluster

The competitiveness cluster announced that it had appointed Christophe Rupp-Dahlem, CEO of Proteins France and Head of Global Public Affairs for the Roquette group, as Chair. During his three-year term of office, Christophe will steer four priority actions:

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

He replaces Yvon Le Hénaff, who received unanimous praise for his term of office.

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

3551 - Roquette

The French specialist in biobased ingredients and plant proteins announced the appointment of Pierre Courduroux as the group's CEO on 14 December 2020. Originally from Clermont-Ferrand, France, Pierre graduated from EM Lyon Business School and has an Executive Masters of Business Administration from Washington University in St. Louis, MO, USA. Pierre has been Chief Financial Officer (CFO) of Roquette since October 2020 and was previously CFO of Monsanto. He has held leadership positions in France, Belgium, Switzerland and the United States. Pierre replaces Jean-Marc Gilson, who was appointed CEO of the Japanese group Mitsubishi Chemical on 1 April 2021.

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

3552 - Total Corbion PLA

The Total-Corbion joint venture announced that Thomas Philippon replaced Stéphane Dion as Chief Executive Officer on 1 October 2020. The joint venture also announced that Chiel Rietvelt became the new Chief Financial Officer last April. He replaced Geoff Norby.

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

MARKETS

In France

3553 - Meal delivery: signature of a charter to reduce waste and single-use plastic packaging.

Following several months of consultations, 19 meal delivery services, including online food order platforms (Uber Eats, Deliveroo, Tiptoque, CoopCycle, Stuart), 'virtual restaurants' that work out of a central kitchen (Frichti, Nestor, Popchef, Foodchéri, Foodles, Saveurs et Vie), companies offering reusable or refundable packaging (Uzaje, Green Go, Reconcil, En boîte le plat, Pyxo) and manufacturers and suppliers of packaging or containers (Metro, Pyrex, Arc International), signed a [charter](#) with the French Ministry for the Ecological Transition. Ten concrete commitments underpin the charter, empowering the signatories to act as drivers of the green transition in their respective fields. These are the key measures:

- An objective of 50% of packaging delivered without single-use plastic by 1 January 2022, rising to 70% by 1 January 2023,
- An end to the automatic delivery of cutlery and sauces by 1 March 2021,
- The launch of 12 trials of the reuse of meal containers, primarily via refundable deposit schemes,
- An objective of 100% recyclable packaging by 1 January 2022.

A monitoring committee will meet regularly and a progress report will be published every six months. The Ministry will coordinate this initiative and provide support for the trial of reusable containers conducted by the food delivery companies, with the support of the French Agency for the Environment and Energy Management (ADEME). The signatories can also ask to receive loans made available through the 'circular economy' arm of *France Relance*, an economic recovery plan.

En savoir plus : [Communiqué de presse](#), [France TV Info.fr](#), [Le Figaro.fr](#), [20 Minutes.fr](#), [Atlantico.fr](#)

3554 - French consumers are ready for compostable packaging.

According to a survey of 1,000 French consumers via Ipsos.Digital, published by [TIPA](#), a specialist in sustainable packaging, 90% of the people surveyed think compostable packaging is an environmentally-friendly and healthy alternative to conventional plastic packaging. A full 89% think more food should be packed in fully compostable packaging instead of plastic, and 65% are willing to pay more for products wrapped in compostable packaging, of which one third said they would be willing to pay over 3% more. When it came to the possibility of adding compostable packaging to their food waste for household composting, 88% said they already did so or would be willing to do so. Similar results emerged when asked about including compostable packaging waste in their existing or future separate food waste collection, with 89% of the people polled already including it or willing to do so. The survey also indicated that 93% of the people surveyed said they sort their household waste, and 45% compost it. In addition, 89% would use the compost if they had the means to do so.

More information: [Converter Mag.com](#)

En savoir plus : [Communiqué de presse](#), [Agro Média.fr](#)

3555 - The bioethanol market: report on 2020 and prospects for 2021.

Despite a dramatic drop in road traffic caused by the successive lockdowns in France, bioethanol still gets the green light from consumers, who are increasingly taken with biofuels. Consumption of Superethanol-E85 is on the up, more petrol stations are selling SP95-E10 and Superethanol-E85, there are more E85-compatible vehicles on the road, and new models of original flex-E85 vehicles have been launched by car manufacturers. In 2020, Superethanol-E85 chalked up two major achievements:

- The distribution network expanded by 32%: there are now 2,305 petrol stations in France, 565 more than the previous year,
- The volumes consumed increased by 4% over 12 months. It was the only fuel to achieve this; all other fuels experienced a drop in consumption.

The potential for growth in 2021 is therefore very high, even more so as the financial advantages for drivers are increasing as the price of traditional fuels rises.

En savoir plus : [Communiqué de presse](#), [Présentation diffusée lors de la conférence de presse](#), [20 minutes.fr](#), [Rtl.fr](#), [Terre Net.fr](#), [Connaissance des Energies.org](#), [La France Agricole.fr](#)

3556 - Publication of a new white paper to encourage the growth of the biomethane sector.

Faced with the proliferation of regulatory requirements (transposition of the RED II directive, changes to the way guarantees of origin work, changes in taxation for biomethane use, changes to the tariff support mechanism for the sector and extra-budgetary mechanisms, the increasing clout of the 'droit à l'injection' (a French act governing the connection of biogas supplies to the national gas network), changes to regulatory proposals meaning digestate will no longer be categorised as waste, etc.), the think tank France Biométhane published this [white paper](#) to offer the French industry the stability it needs to grow consistently and increase in competence, expertise and competitiveness. It includes 15 proposals, split into 4 main areas:

- Set ambitious, achievable goals based on the production potential of renewable gases,
- Establish a reliable and steady support mechanism so the industry can move towards industrialisation and become competitive,
- In concrete terms, develop positive externalities,
- Coordinate to adapt the regulatory and fiscal framework of biomethane production.

France's challenge is to transform the national objective – which by law is for 10% of gas consumed to be renewable (i.e. annual production of around 40 TWh) by 2030 – into an urgent obligation.

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

3557 - Report on the sale of active substances for plant protection products in 2019.

According to the Union des Industriels de la Protection des Plantes ([UIPP](#) – France's crop protection association), the quantities of active substances sold by its members in France fell by 23.8% in 2019. This represents 52,347 tonnes of active substances sold, compared with 68,678 tonnes in 2018. This equates to a drop of 40% over 20 years. The report also shows that sales of biological pest control products continue to rise. According to data published by France's national database of distributor sales (BNVD), which looks into how much of these active substances farmers are buying, biological pest control products accounted for over 36% of active substances sold in France in 2019 (compared with 13% in 2010).

However, as a result of the higher added value of biocontrol products and the provision of services exploiting digital technologies, the turnover of UIPP's members in the plant protection industry only fell 5.5% on the previous year to stand at €1.87 billion.

In these rather mixed circumstances, the UIPP points out that R&D investment remains high, with the businesses channelling 11% of their overall turnover (€205 million) into innovation.

En savoir plus : [UIPP.org](#)

3558 - Publication of the 2020 directory of innovative French renewable chemicals companies.

Put together by the editorial boards of the magazines Formule Vert and InfoChimie, this directory contains key information on around fifty innovative French companies in the renewable chemicals sector.

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

In Europe

3559 - The impact of the airline industry on climate change: a number of stakeholders advocate for a tougher European biofuels directive.

While the European Union (EU) prepares to publish new goals for sustainable aviation fuel (SAF) this year, the Fuelling Flight Project, comprising industry and civil society representatives brought together by the European

Climate Foundation and the ClimateWorks Foundation, released a statement signed by airlines and NGOs saying that *'the current Renewable Energy Directive does not ensure that fuels used in Europe meet either the sustainability standards desired by civil society or leading airlines.'* The signatories want the EU to *'ensure that future policies only promote the most sustainable fuels to reduce the climate impact of aviation and... avoid repeating the mistakes of the past'*, i.e. backing first-generation biofuels. They are calling on the EU to prioritize *'e-fuels and those made from agricultural waste and forest residues, with clearer exclusion of biofuels produced on dedicated cropland to avoid any competition between biofuels and food crops.'*

This statement was criticized by [ePURE](#), an association that represents European renewable ethanol producers, because it *'unfairly tarnishes biofuel use in the EU as having high sustainability risks.'* The association does not believe ethanol is *'responsible for indirect land use change (ILUC).'*

More information: [European Climate.org](https://europeanclimate.org)
En savoir plus : [Air Journal.fr](https://airjournal.fr)

3560 - Publication of a report: Biodegradability of Plastics in the Open Environment.

Published by the European Commission's Scientific Advice Mechanism, the [report](#) identifies applications of biodegradable polymers that contribute to achieving a circular economy and tackle the challenge of managing the EU's waste. It also emphasises the advantages of the application of biodegradable plastics *'where it is challenging to remove or collect a particular plastic product or its fragments from the environment after use.'* In its conclusion, the report also highlights the benefits of biodegradable plastic products *'where it is difficult to separate plastic from organic material that is destined for a composting waste stream or wastewater treatment.'*

More information: [European Bioplastics.org](https://europeanbioplastics.org)

Outside Europe

3561 - The global bioplastics market: report on 2020 and prospects for 2021.

According to the association European Bioplastics, which represents the interests of the European bioplastics industry, the bioplastics market continued to grow in 2020 despite the Covid-19 health crisis. If they continue on this trajectory, industrial companies in the sector are set to produce 2.8 million tonnes in 2025, up from around 2.1 million tonnes in 2020. The global market is predicted to grow by 36% over the next five years. The report also describes how production capacities for innovative biopolymers, such as biobased polypropylene (PP) and especially polyhydroxyalkanoates (PHAs), are expected to increase almost sevenfold over the next five years. The production of polylactic acid (PLA) will also continue to grow due to new investments in production sites in China, the United States and Europe. Production capacities for biobased PP are expected to more than triple by 2025 because it is used in a large number of sectors. Biobased, non-biodegradable plastics, including biobased PE and biobased polyethylene terephthalate (PET), as well as biobased polyamides (PA), currently make up 40% (0.8 million tonnes) of the global bioplastics production capacities. Although plans are underfoot to build new biobased PE production plants in Europe and South America over the coming years, biobased PET is expected to lose market share to polyethylene furanoate (PEF), which is tipped to enter the market in 2023. The report found that packaging remains the largest field of application with almost 47% (0.99 million tonnes) of the total bioplastics market in 2020. Bioplastics are already being used in many other sectors, however, and the portfolio of applications continues to diversify. In terms of production, the data collected tell us that over 46% of bioplastics are currently produced in Asia, compared with 25% in Europe. This share is predicted to rise to 28% by 2025.

More information: [Press release](#)

4. PUBLIC POLICIES & REGULATIONS

In France

3562 - Publication of a decree concerning the ban of a selection of single-use plastics.

Under application of certain provisions set out by the French law of 10 February 2020 on the circular economy and the fight against waste, this [decree](#), published in the government gazette on 1 January 2020, sets out the terms of the ban of some single-use plastics. As of 1 January 2020, the sale and provision of certain plastic products is being progressively phased out, once stocks ordered before 2021 have been depleted, and at the latest by 1 July 2021. The decree covers:

- All cutlery, excluding cutlery used in prisons and healthcare establishments and on air, rail and maritime transport, and utensils used to measure out non-food products (for which the deadline is extended to 3 July 2021),
- Disposable cardboard plates coated with a plastic film and compostable plastic plates,
- Expanded polystyrene boxes for takeaway food and food for consumption at the point of sale,
- Cups, even compostable ones, in particular those made of expanded polystyrene,
- Lids and caps for drinks,
- Straws, except those used for medical reasons,
- Drink stirrers,
- Bottles given out for free in places open to the public and in a professional context, or distributed during sporting, cultural or celebratory events,
- Steak markers,
- Confetti and glitter,
- Balloon sticks,
- All items made of oxo-degradable plastic (a plastic that includes additives that cause the plastic to break down into tiny fragments (microplastics) or cause chemical decomposition under the effect of oxidation).

En savoir plus : [Service Public.fr](#), [Le Figaro.fr](#)

3563 - The circular economy for plastic: €16 million in emergency aid for the plastics processing sector.

Barbara Pompili, Minister of the Ecological Transition, and Agnès Pannier-Runacher, Deputy Minister to the Minister of Economy, Finance and Recovery, responsible for Industry, presented the 60 companies – mainly microenterprises and SMEs – that would receive aid amounting to €16 million from the French government relief fund for the sale of recycled plastics. The funds allocated to this one-off support initiative will go towards supporting any eligible companies that submit a request. These recycled plastics will be integrated by plastics processors into the manufacture of new products, to contribute to a circular economy for plastic. This financial aid, managed by the French Agency for the Environment and Energy Management (ADEME), will be provided for one year, for over 295,400 tonnes of recycled resins. Support for the circular economy for plastic will be extended and broadened in 2021 with the reinforcement of ORPLAST (Objectif Recyclage PLASTiques), an ADEME initiative to encourage the development of industrial plastic recycling activities by supporting the adaptation of production tools to prepare recycled plastics, and the integration of recycled plastics into the production of plastic products.

En savoir plus : [Communiqué de presse](#), [Journal de l'Environnement.net](#)

In Europe

3564 - The Netherlands: Amsterdam will ban the advertising of fossil fuels.

In response to a joint initiative of GroenLinks, a Dutch left-wing green political party, and citizens' initiative Reclame Fossilvrij (literally, 'fossil-free advertising'), the Dutch capital will ban the advertising of fossil fuels as well as air

travel on billboards and bus shelters. The same decision might be taken by other cities in the Netherlands, such as the Hague, Rotterdam and Utrecht, and even abroad – perhaps in France.

Info: The collective behind this initiative also wants these industries to be banned from holding corporate events in the city.

En savoir plus : L'Info Durable.fr, Europe1.fr, Agence Ecofin.com, We Demain.fr, L'Usine Nouvelle.com

3565 - A new goal for the reduction of greenhouse gas emissions.

After a long night of negotiations, the European Union Member States finally agreed to cut their emissions by at least 55% (compared with 1990 levels) by 2030, up from the 40% previously agreed. This new climate goal, which is lower than the 60% cut the European Parliament requested, is also considered to be inadequate by some environmental NGOs and experts.

The agreement is expected to lead to the revision of 12 European directives touching on the carbon market, cars, housing and renewable energies this June.

Recap: The European Union hopes to achieve carbon neutrality by 2050.

En savoir plus : France 24.com, Les Echos.fr, Les Echos.fr, Le Monde.fr

5. AWARDS & EVENTS

AWARDS

EVENTS

MARCH 2021

Bioket

16-19 March 2021. Online.

More information: [Website](#)

BIO-Europe Spring

22-25 March 2021. Online.

More information: [Website](#)

World Bio Markets

29-31 March 2021. Online.

More information: [Website](#)

APRIL 2021

International Conference on Industrial Biotechnology and Synthetic Biology (ICIBSB)

12-13 April 2021. Online.

More information: [Website](#)

MAY 2021

14th Bio-based Materials Conference

18-20 May 2021. Cologne (Germany) and online.

More information: [Website](#)

Lignofuels

26-27 May 2021. Helsinki (Finland).

More information: [Website](#)

JUNE 2021

Plant Based Summit

2-4 June 2021. Reims (France).

More information: [Website](#)

BIO International Convention

10-11 & 14-18 June 2021. Online.

More information: [Website](#)

COSM'ING

30 June-2 July 2021. Saint-Malo (France)

More information: [Website](#)

JULY 2021

Metabolic Engineering

11-15 July 2021. Honolulu (United States).

More information: [Website](#)

SEPTEMBER 2021

17th Conference on Renewable Resources & Biorefineries (RRB)

6-8 September 2021. Aveiro (Portugal).

More information: [Website](#)

Commercializing Industrial Biotechnology

13-14 September 2021. San Diego (United States).

More information: [Website](#)

13th European Congress of Chemical Engineering and 6th European Congress of Applied Biotechnology

20-23 September 2021. Online.

More information: [Website](#)

Genome Engineering and Synthetic Biology

22-24 September 2021. Online.

More information: [Website](#)

OCTOBER 2021

European Forum for Industrial Biotechnology and the Bioeconomy (EFIB)

5-7 October 2021. Vienna (Austria).

More information: [Website](#)

In-Cosmetics Global

5-7 October 2021. Barcelona (Spain).

More information: [Website](#)

Cosmetic 360

14-14 October 2021. Paris (France).

More information: [Website](#)