

# A land-based bioeconomy, enabling farming resilience

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## WHY THIS TOPIC?



The farming industry is looking for solutions to the global challenges of climate change, geopolitical uncertainties and economic instability. They must also contribute to the imperatives of food, energy and industrial sovereignty. For farmers, the current context of a lack of appeal for farming jobs, a search of income and meaning leads to exploring new ways for a successful agroecological transition and gain in additional value.

These reflections are part of a European momentum for the bioeconomy. Indeed, a new European strategy has been announced by the end of 2025 in the new European Commission's "Compass for Competitiveness". In addition, the December 2024 Agriculture and Fisheries Council highlighted "the important role of the sustainable and circular bioeconomy in addressing current challenges and support the Union's economy, in particular by creating essential jobs and increasing competitiveness". The bioeconomy is therefore a solution for decarbonization and sovereignty.

## DEFINITIONS AND KEY FIGURES

**The bioeconomy** is the biobased economy that encompasses the sustainable production of biomass and its processing into food and non-food products, in a circular approach. Only agricultural biomass is considered in this publication, with little emphasis on biofuels, to give more room to other biomass uses.

**The turnover of the bioeconomy** is estimated at €2,500 billion in the European Union (EU), and €500 to €550 billion in France. It accounts for 17.2 million jobs in the EU and 1.9 million in France.

- In the EU, the potential for substituting fossil-based products with biobased products (textiles, home and personal care, furniture and construction, chemicals, plastics, fertilizers) could avoid emissions of 2.5 billion tonnes of CO<sub>2</sub> equivalent per year by 2030.
- In France, the quantity of carbon contained in the consumed biobased products (excluding food, pharmaceuticals and energy) is equivalent to 28 million tonnes of CO<sub>2</sub> captured from the atmosphere per year. This is equivalent to avoiding the burning of 9 million tonnes of oil.
- In the chemical industry, bio-based products account for 5-10% of the feedstocks used in the EU, and 11% in France. The potential is estimated at 20 to 40%.

**The land-based dimension of the bioeconomy** is important and relevant for the agricultural community. It is rooted in territories, defined as living areas, economic areas, with consistent agronomic, soil and climate conditions.

An **organization's resilience** is its ability to cope with and overcome an adverse event, incident or context. A resilient business, such as an agricultural operation, plans and invests according to disruptions and is able to adapt, resist, bounce back and prosper despite crises.

**Biorefineries** are industrial platforms where biomass is extracted and upgraded into different products using physical, chemical or biological technologies of deconstruction, separation and functionalization aimed at transforming biomass in a sustainable way. In this publication, we extend the scope of biorefineries to include biogas plants. There are 702 sites in France, representing 27% of biorefineries in the EU (excluding biogas digesters).

## WORKING METHOD

We set up and led a 15-member working group that met 10 times over the course of one year, interviewing 20 experts and stakeholders from a variety of backgrounds: public authorities, research and higher education establishments, farming professionals (cooperatives, inter-branch organizations), innovation and competitiveness clusters, experts in financial and extra-financial accounting, as well as market analysts.

## WHAT IS OUR ANALYSIS?

### 1. Success stories:

The bioenergy sectors (biofuels and biogas) have developed and consolidated since the 1990s. They have shown that the food and non-food uses of agricultural biomass are complementary and interdependent, stabilizing markets and securing markets for industry players, including farmers. Biorefineries are rooted in their local environments.

### 2. Numerous, heterogeneous policies that lack coherence:

Knowledge of biomass flows varies among regions and countries. In fact, it is more difficult to assess flows than stocks, and the methods used vary depending on the European, national and regional observatories. In addition, impact studies of public policies, particularly in terms of decarbonization, show tensions on resources due to high ambitions for the 2030 and 2050 targets. They need to be reconciled with one another and with biomass availability. It is also important to take into account sobriety efforts and the trend towards more flexitarian food consumption. Finally, incentives for bioenergy are more mature than incentives for biomaterials and biobased chemistry.

### 3. Conditions for resilience:

The circular and biobased bioeconomy remains uncompetitive compared to the linear, fossil fuel-based economy. To make it more competitive, it is necessary to stimulate demand with consumer information and to stimulate supply, using several drivers:

- Valuing the co-benefits of sustainable agricultural practices (through payments for environmental services, carbon credits, regenerative agriculture premiums, etc.);
- Developing functional and process innovations;
- Organizing value chains such as those for hemp, flax, miscanthus, biogas and biomethane, or sugar/ethanol, for example;
- Choosing land and territories: favoring the production of biomass with multiple markets on fertile land and that of dedicated non-food biomass, also providing ecosystem services, on less fertile land; favoring food and non-food uses in marginal land to provide additional income; benefitting from funding set up by local authorities.

Farmers who diversify their production and markets and also monetize their sustainable farming practices, have the profile of business leaders. They have a strategic vision, are environmentally conscious and have a solid financial situation. Their integration into collective groups reinforces their business model, for example by pooling risk through cooperatives.

They need to be supported by advisory services as well as technical, financial and legal tools (contracts) to make their “bioeconomic transition” successful.

### 1. Producing local references to help policy makers and economic stakeholders shape decisions:

- **Preparing** an inventory of feedstock supply and demand as well as industrial processing facilities in local areas, using EU-harmonized methods;
- **Setting up an observatory** of actions monetizing sustainable agricultural practices for farmers and monitoring these data;
- Encouraging research into **new methodologies for assessing the positive externalities** of biobased products, enabling the creation of multi-criteria comparison tools for environmental, economic and social impacts.

### 2. Increasing overall biomass production to meet multiple demands:

- **Facilitate the deployment of incentive financing tools** (Payments for Environmental Services, “agricultural transition” tax credit, research tax credit, carbon and biodiversity credits, regenerative agriculture-type premiums...) that monetize the co-benefits of bio-based products.
- In the event of a decline in livestock production as a result of the rise in **flexitarianism**, providing farmers with strategic guidance on the impact of converting to the production of non-food goods and services, based on a sectoral and regional approach;
- **Prioritizing the production of biomass with multiple markets** (both food and non-food), paying particular attention to the sharing of value between the different links in the supply chain, as a price-risk management tool for farmers.

### 3. Prioritizing initiatives that make sense locally:

- Building a **decision-making tool** for economic players in agricultural ecosystem territories, based on a multi-criteria radar aimed at resilience, as part of a Territorial Bioeconomic Project, along the lines of the Territorial Food Projects (PAT);
- **Making biomass production incentives conditional on the presence of a territorial biorefinery-type biomass valorization industrial tool**, as part of a sector development rationale;
- Posting a development **plan for agricultural biorefineries**, encouraging new industrial players to set up on pre-existing platforms in line with local agricultural biomass production;
- Broadening the analysis of industrial projects by **regional biomass units** to take into account not only supply plans in terms of volumes, but also impacts in terms of value creation;
- Promoting the **deployment of socio-environmental accounting** (CARE method) for farms, considering their own carbon footprint and commitment to decarbonizing the economy. Supporting actions already underway.

### 4. Making public incentives more consistent and balanced:

- **Moving away from the polarized vision of food/non-food production**, which are intimately linked, by making public policies more consistent, with a holistic vision;
- **Strengthening incentives for biomaterials and biobased chemistry** (currently lower than incentives for bioenergy), based on the intrinsic and differentiating properties of these products (quality, durability, naturality)

### 5. Enhancing the visibility of actions undertaken:

- **Raising awareness among agricultural and industrial players** through local forums (regional bioeconomy forums, trade shows, Paris International Agricultural Show);
- **Raising consumer awareness** with “clean labels” (European Product Environmental Footprint, national environmental labelling) that take better account of sustainable agricultural practices and the biogenic carbon composition of products.

## AGRIDÉES



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Since its creation in 1867, Agridées has been a unique forum for questioning, debating and generating expertise, bringing together players in the agricultural, agri-food and agro-industrial sectors. Apolitical and independent, driven by its values of humanism and progress, Agridées facilitates encounters among people from diverse backgrounds, and draws on the collective intelligence of this network to generate innovative ideas and build solid collaborations. Throughout the year, Agridées organizes a variety of events and cross-cutting working groups designed to produce studies and articles for economic and political decision-makers, and to address challenges and societal expectations of the 21st century.

## ACDV (ASSOCIATION FOR PLANT-BASED CHEMISTRY)



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ACDV was created in late 2007, on the initiative of industry players aware of the economic and environmental challenges presented by a chemistry based on plant resources.

Bringing together more than 65 members, it federates players in the value chain of the biobased sector to develop an innovative industry that implements the objectives of carbon neutrality, sovereignty and territorial revitalization, at the service of society. ACDV is distinguished by its broad representation, from upstream to downstream: agro-industry, chemical and end-user companies, start-ups, SMEs, ETIs, major groups, competitiveness clusters and professional organizations.

Its mission is twofold:

- Supporting, structuring and accelerating the industrial development of plant-based chemistry and bio-based products.
- Promoting the advantages of plant-based chemistry, raising awareness of its strengths.

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