



Rodenhuizedok Biorefinery Cluster in the Port of Ghent © Bio Base Europe Pilot Plant

Bioeconomy Factsheet Belgium

July 2018

This factsheet gives an overview of the Belgian bioeconomy innovation technology system. It includes the key government interventions, research institutes, networks and finance instruments in Belgium.



BIOECONOMY GOVERNANCE

Belgium is divided into three regions, Wallonia, Flanders, and Brussels, with little policy integration between the three.

Flanders

- **The Flemish Interdepartmental Working Group on Bioeconomy was started in 2012**

Wallonia

- Department of Agriculture, Natural Resources, and Environment
- Department of Spatial Planning, Housing, Heritage, and Energy
- Department of Economy, Employment, and Research

BIOECONOMY STRATEGIES AND ROADMAPS

Flanders

- **Bioeconomy in Flanders**, for a bioeconomy in 2030 (2013, currently under revision).
- **Sustainable use of, and value creation from, renewable raw materials for bio-based industrial production such as biomaterials and green chemicals in Flanders** (updated 2016).
- **Vision 2050: a long-term strategy for Flanders** (2016), including Circular Economy and Energy.
- **Action Plan for the Sustainable Management of (Residual) Biomass Streams 2015-2020.**
- One of the “9 levers for a circular economy in 2020” is the bioeconomy (co-ordinated by OVAM).

Wallonia

- Recommendations for the development of a Walloon strategy “Biomass energy” (2016), written by several government departments in collaboration with ValBiom.

LEGISLATION

Belgium

The Federal Government has initiated work to prepare an energy vision, and a subsequent energy pact, covering the next 20-25 years to transition Belgium's energy system to a more sustainable one.

Flanders

The **Flemish climate plan 2013-2020**, published by the Flemish Environment, Nature and Energy Department, contains plans for mitigation and adaptation. Mitigation areas include mobility, buildings, waste, agriculture and non ETS industry.

Wallonia

The **Walloon Air-Climate-Energy Plan 2014-2022** includes a list of measures to increase the market share of renewable energy and to promote energy efficiency in all sectors.

The **2nd Walloon Sustainable Development Strategy (WSDS)** was adopted in 2016 and is designed as “a guidance and actions document to promote initiative and consistency for sustainable development in the public policies of the Walloon Region.”

The **Marshall Plan 4.0** intends to refocus the priorities of the economic restructuring programme around the digital and circular economies.

OPEN ACCESS PILOT PLANTS

- Bio Base Europe Pilot Plant
- ILVO Food Pilot



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NETWORKS AND CLUSTERS INDUSTRY ASSOCIATIONS

- **essenscia** and **Bio.be** (biotech)
- **FEVIA** (food)

Flanders

- **Flanders Biobased Valley** (formerly Ghent Bio-Economy Valley)
- Spearhead Clusters, including:
 - **CATALISTI** (sustainable chemistry and plastics)
 - **SIM** (materials)
 - **FLUX50** (energy)
 - **Flanders' FOOD** (agrifood)
 - **Blauwe cluster** (blue growth)
- Innovative Company Networks, including:
 - **IBN Composieten** (composites)
 - **Power to Gas**
- **Flanders Cleantech Association**
- **Vlaanderen Circular**

Wallonia

- Business Clusters, including:
 - **TWEED Cluster** (Energy, Environment and Sustainable Development)
 - **Plastiwin** (Walloon business cluster for the plastics industry)
- Competitive Clusters including:
 - **GreenWin** (green chemistry and durable materials)
 - **BioWin** (biotechnology and health)
 - **WagrALIM** (food industry)
- **ValBiom** supports the sustainable development of the non-food biomass value chain.
- **Coq Vert**, a biobased economy initiative
- **Fédération Essenscia-Wallonie**



FINANCIERS

Belgium

- The Federal Government of Belgium offers **tax reductions** to some innovators, for expenses like capital risk, investment and staff salaries

Flanders

- **Flanders Innovation and Entrepreneurship (VLAIO)**, a merger of IWT and Enterprise Flanders. It offers support for:
 - SME innovation and growth, industrial R&D and links between research and industry
 - High-risk transformative projects
 - Green technologies and green strategies
 - Industrial PhD positions
- Research Foundation Flanders (**FWO**)
- Flemish investment company (**PMV**)
- Business Angels Network Vlaanderen (**BAN Vlaanderen**)

Wallonia

- Fund for Strategic Fundamental Research (**FRFS**)
- Scientific Research Fund (**FNRS**)
- **Enterprise Feasibility Grants**
- **SOWALFIN** (facilitates access to finance for companies)
- Société Régionale d'Investissement de Wallonie (**SRIW**)
- **NCP Wallonie** (company advice and guidance for securing funding)



INDUSTRY STAKEHOLDERS

Many chemicals companies have headquarters in Belgium, such as established furan producers **Transfurans**. Other Belgian chemicals companies active in the bioeconomy include **Solvay**, **Oleon**, **EOC** and **Proviron**. **Ecover** (now part of SCJohnson) makes biobased cleaning products. There are also many smaller companies innovating in the chemicals industry, such as **Ecotresures** (supercritical CO₂ extraction), **Orineo** (biobased materials) and **B4Plastics** (eco-plastic products). Foreign companies are also very active in Belgium's chemicals sector. **Avantium** is building a plant for the production of FDCA in Flanders.

There are also several large-scale fermentation facilities in the agrifood industries such as **Galactic** (lactic and acetic acid), **Citrique Belge** (citric acid), and **Genencor (Dupont Industrial Biosciences)**. Small companies innovating in food fermentation include **Inbiose** (speciality carbohydrates).

Belgium is also home to many agricultural companies providing feedstock for the bioeconomy, such as **Tiense Suikerraffinaderij**, **Beneo** and **WAL-AGRI** as well as international agrifood companies like Cargill and Tereos Syral. Alternative feedstocks are also grown by companies like **Avecom** (microbial protein) **PhiTech** (miscanthus) and **Millibeter** (insects).

Biotechnology tools and microbes are developed by companies like **GlobalYeast** and **Syngulon**.

Bioethanol is generated in Belgium by **Alco Bio Fuel** and **Biowanze**. Anaerobic digestion is widespread, and leading organisations include **Go4Cycle** and **OWS**.

Production sites in the bioeconomy are constructed by engineering companies like **De Smet Engineers**.

Siterem, a company that specialises in bioremediation of polluted soils.

UNIVERSITY CENTRES AND RESEARCH

Flanders

- **VIB (Vlaams Instituut voor Biotechnologie)** across six Flemish campuses: **Ghent University**, **KU Leuven**, **University of Antwerp**, **Vrije Universiteit Brussel**, and **Hasselt University**
- **CAPTURE Centre for sustainable Chemistry – Ugent**
- **VITO** a leading European research and technology organisation within cleantech and sustainable development, including **BIORIZON** Joint Research centre with Dutch TNO

Wallonia

- **CRA-W Walloon Agricultural Research Centre**
- **Materia Nova**

BIOBASE4SME

BioBase4SME is a strong network of leading bio-economy experts. The project offers innovation support services to North-West European SMEs and start-ups active in the bio-economy.

The project supports SMEs on their way to getting industrial proof of concept and a realistic business plan. Both are essential to convince any type of investor or client.

This factsheet was produced by the BioBase4SME partners, more factsheets and information on the project can be found here: <http://www.nweurope.eu/BioBase4SME>

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BioBase4SME partners are:



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