

# Bioeconomy initiatives of the region Flanders



**Flanders**  
State of the Art

The bioeconomy initiative in Flanders, initiated in 2013, has fostered a robust ecosystem with a strong knowledge network in bioeconomy sectors, promoting cooperation among policy makers, economy, private stakeholders, and local actors. This has catalyzed significant biotechnology innovation and impressive R&D, piloting and scale-up infrastructure.

Flanders is divided into regions with distinct competencies. **West Flanders** excels in agriculture and food production, particularly in horticulture, dairy, and meat industries. **East Flanders** is renowned for its biotechnology sector, food processing industries, and circular economy initiatives, including waste treatment and valorization. **Limburg** is strong in forestry, paper, and bio-based industries, along with waste recycling and biomass energy production. **Flemish Brabant** focuses on research and innovation, particularly in food technology, sustainable packaging, and biobased chemicals. **Antwerp** is a major hub for the chemical industry, including biochemicals and bioplastics, as well as industrial waste treatment.

Key feed-streams include biomass from agriculture, forestry, and waste, which are utilized in a cascading approach to maximize value. Technological focus areas include green chemistry, advanced materials, and bioplastics, with significant leadership in these fields due to strong investment in innovation and supportive policies.



Gefördert durch:  
 Bundesministerium  
für Wirtschaft  
und Klimaschutz  
aufgrund eines Beschlusses  
des Deutschen Bundestages

# Expertise & Competences

BIORESOURCES	FOOD AND FEED	BIO-BASED MATERIALS	BIO-BASED MOLECULES AND RELATED PROCESSES	BIOENERGIES
Organic waste, wood, algae, insects, marine sector, agriculture	Food technology, alternative protein sources for food and feed	Bioplastics, green chemicals, lignocellulose utilisation, textiles, wood and timber, pulp and paper	Structural biology, biotechnology, biorefineries, large-scale fermentation	Bioethanol, biogas

# Networks & Clusters

## Research & Development

VIB – Flemish Institute of Biotechnology	VITO – Flemish Institute for Technology Research	ILVO	Ghent University InBio.be	University of Antwerp	Thomas More UAS RADIUS	Bio Base Europe Pilot Plant	Biorizon
VIB is a prime research centre for life sciences and biotechnology with a rich infrastructure and incubator programs.	VITO advances research and development in the area of cleantech and sustainable development.	Flanders Research Institute for Agriculture, Fisheries and Food optimizes the biomass valorization for bio-based production.	The Centre for Industrial Biotechnology and Biocatalysis advances bio-sourced fuels, chemicals, material and food/feed.	Developing microbial cleantech solutions for water treatment, nutrient management, food production, CO2 removal.	The Centre of Expertise for Sustainable Biomass and Chemistry advances the cultivation and processing.	A flexible, multi-purpose state-of-the-art pilot facility for process development, scale-up and custom manufacturing of biobased products and processes.	Shared between VITO and TNO the research center and community works on biobased functionalized aromatics.
<a href="http://vib.be/en">vib.be/en</a>	<a href="http://vito.be/en/theme/sustainable-chemistry">vito.be/en/theme/sustainable-chemistry</a>	<a href="http://ilvo.vlaanderen.be">ilvo.vlaanderen.be</a>	<a href="http://inbio.be">inbio.be</a>	<a href="http://uantwerpen.be/en/research-groups/sustain/">uantwerpen.be/en/research-groups/sustain/</a>	<a href="http://thomasmore.be/nl/duurzame-biomassa-en-chemie">thomasmore.be/nl/duurzame-biomassa-en-chemie</a>	<a href="http://bbeu.org">bbeu.org</a>	<a href="http://Biorizon.de">Biorizon.de</a>

## Further information

<b>Strategy paper Bioeconomy in Flanders</b> <a href="http://faolex.fao.org/docs/pdf/bel210983.pdf">faolex.fao.org/docs/pdf/bel210983.pdf</a>	<b>Flanders bioeconomy ecosystem</b> <a href="http://invest.flandersinvestmentandtrade.com/en/sectors/biomass-ecosystem">invest.flandersinvestmentandtrade.com/en/sectors/biomass-ecosystem</a>	<b>Flanders’ Bioeconomy – Broschure</b> <a href="http://ilvo.vlaanderen.be/uploads/documents/Broschure_flanders_bioeconomy_2020.pdf">ilvo.vlaanderen.be/uploads/documents/Broschure_flanders_bioeconomy_2020.pdf</a>
<b>Factsheet Flanders Biobased Valley at North Sea Port, Ghent</b> <a href="http://circularports.vlaanderen-circulair.be/wp-content/uploads/2023/10/NSP_Flanders-Biobased-Valley.pdf">circularports.vlaanderen-circulair.be/wp-content/uploads/2023/10/NSP_Flanders-Biobased-Valley.pdf</a>		<b>Bioeconomy in Flanders (GER)</b> <a href="http://flandersinvestmentandtrade.com/invest/de/branchen/nachhaltige-materialien/bio%C3%B6konomie">flandersinvestmentandtrade.com/invest/de/branchen/nachhaltige-materialien/bio%C3%B6konomie</a>

Bioeconomy initiatives of Flanders region



## Basis Data

Inhabitants .....	6.700.000	2022
BE employees .....	152.000	2020
BE annual turnover .....	53 bn €	2022

## Characteristics / Profile

- 5% of all employees and 10% of the total industry in Flanders are located in bio-based industries
- Besides small-volume specialty products, also large-scale facilities for green chemicals, especially plastics and biofuels exist in Flanders
- Strong integration of industry and research
- Major companies pushing the bioeconomy are: Citrique Belge, Vandemootele, Inbiose, Sappi Lanaken Mill, AVR, Proviron, Oleon, AccelorMittal

## Bioeconomy Partners



## Contact

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<b>Bio Base Europe Pilot Plant</b> Prof. Dr. Wim Soetaert <a href="mailto:communication@bbeu.org">communication@bbeu.org</a>	<b>University of Antwerp</b> Siegfried Vlaeminck <a href="mailto:siegfried.vlaeminck@uantwerpen.be">siegfried.vlaeminck@uantwerpen.be</a>	



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# Networks & Clusters

## Research & Development

KU Leuven Bioeconomy	KU Leuven SELS Group	KU Leuven Biocon	KU Leuven Plant Institute	KU Leuven One health	KU Leuven TRANSfarm
KU Leuven combines agri-food, green chemistry and biotechnology know-how.	Part of the Centre for Sustainable Catalysis and Engineering. e.g. for lignocellulose valorization.	Pilot-facility for chemical biorefining. Produces kilogram-scale samples of biobased products.	Expertise ranges from molecular & cell biology, including gene technology to agricultural production.	Extensive research in well-being of humans, animals, ecosystems, climate and geological processes.	Facilitates research institutes and diverse businesses in agricultural, biomedical and food-related questions
ees.kuleuven.be/bioecon	sels-group.eu	kuleuven.be/biocon	kuleuven.be/plant-institute	research.kuleuven.be/en/onehealth	set.kuleuven.be/over-ons/groepsdiensten-en-faciliteiten/transfarm

## Further information

<b>Strategy paper Bioeconomy in Flanders</b> faolex.fao.org/docs/pdf/bel210983.pdf	<b>Flanders bioeconomy ecosystem</b> invest.flandersinvestmentandtrade.com/en/sectors/biomass-ecosystem	<b>Flanders' Bioeconomy – Broschure</b> ilvo.vlaanderen.be/uploads/documents/Broschure_flanders_bioeconomy_2020.pdf
<b>Factsheet Flanders Biobased Valley at North Sea Port, Ghent</b> circularports.vlaanderen-circulair.be/wp-content/uploads/2023/10/NSP_Flanders-Biobased-Valley.pdf		<b>Bioeconomy in Flanders (GER)</b> flandersinvestmentandtrade.com/invest/de/branchen/nachhaltige-materialien/bio%C3%B6konomie

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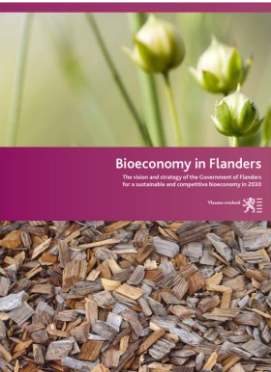
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## Ecosystem / Clusters

Blue Cluster	BlueChem	flanders.bio	Flanders' FOOD	Catalisti	Moonshot
Network of innovative organisations to foster the sustainable blue economy especially offshore.	Incubator for sustainable Chemistry located at Blue Gate Antwerp & equipped with laboratory facilities.	Life-Science-Cluster with a focus on the areas of health and agrifood technology.	The spearhead cluster and innovation platform for the Flemish agri-food industry.	The spearhead cluster and accelerator for sustainable innovation in the chemical and plastics industries.	Funding program by the Flanders government for breakthrough research and innovation.
bluecluster.be	bluechem.be	flanders.bio	flandersfood.com	catalisti.be/en/innovation/biobased-value-chains	moonshotflanders.be/en

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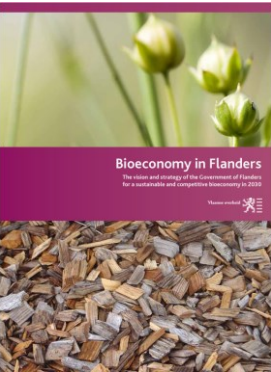
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