



INDUSTRIAL BIOTECHNOLOGY IN BELGIUM

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INTRODUCTION

According to the federal Government, more than 140 biotechnology companies are active in Belgium. Around five per cent of these can be classified as industrial biotech companies.

Recognising the growing importance of industrial biotechnology to help drive Belgium's technological innovation, industrial competitiveness and sustainable development, the federal Government created the Belgian Integrated Platform for Industrial Biotechnology (BIPiB) in January 2005. In 2006, the BIPiB called for specific measures to promote the introduction of bio-products and bio-energy to the market as well as a clear, stable and long-term regulatory framework. The platform also developed several recommendations on both policy and research aspects. The federalised structure of Belgium results in a large number of public authorities and agencies at both the federal and regional levels dealing with biotechnology policies and research programmes. This report will analyse research programmes and facilities as well as policy measures supporting the development of industrial biotechnology and the introduction of bio-based products on the market.

I. RESEARCH AND INNOVATION

Modern industrial biotechnology is a relatively new discipline, with major areas of knowledge still to be explored. Public support to research as well as the establishment of pilot and demonstration facilities to scale-up individual processes will therefore help in the development of a European bio-based economy.

A. Public research funding

Belgian Science Policy is managed by the Belgian Federal Science Policy Office (Belspo²). The Belgian Co-ordinated Collections of Micro-organisms (BCCM) programme³ of Belspo, consists of four complementary research-based service culture collections, coordinated by a central team at the Belgian Federal Science Policy. The BCCM consortium aims to share the biological material of its collections, related information, as well as its experience and know-how in the field of fundamental and applied (micro)biology, to the benefit of its partners and clients in the academic and industrial communities. The Belgian Federal Science Policy finances the BCCM consortium as a permanent support action for the development of the life sciences and biotechnology.

Belspo is member as a partner of the European Research Area dedicated to Industrial Biotechnology (ERA-IB⁴).

Essencia, Flanders Bio and the Ghent Bio-Energy Valley are supported through the Thematic Innovation Stimulation⁵ (TIS) which aims to make sure that biotech is incorporated in their operations. Projects are financed for 4 years by the Institute for the Promotion of Innovation by Science and Technology in Flanders⁶ (IWT), inaugurated in October 2008.

B. Pilot and demonstration plants

i. pilot plants

Currently, no specific pilot plants for industrial biotechnology have been established in Belgium.

However, the development of a pilot biorefinery is underway in the Ghent Bio-Energy Valley. The pilot plant will be co-financed by the Flanders government via the IWT and Terneuzen (South Netherlands).

ii. demonstration plants

Ghent

Ghent Bio-Energy Valley, Ghent	
General, products, feedstocks	Ghent Bio-Energy Valley promotes the development of the bio-based economy through collaborative programs, joint initiatives and synergy creation between the partners in the fields of research & development, structural measures and policy, logistics and communication towards the general public.
Services	<i>Stimulation of technological innovation</i>

² <http://www.belspo.be/>

³ <http://bccm.belspo.be>

⁴ <http://www.era-ib.net>

⁵ http://www.iwt.be/downloads/publicaties/brochure/fiche_vistis_eng.pdf

⁶ http://www.iwt.be/iwt_engels/general.html

	<ul style="list-style-type: none"> - Setting up collaborative and coordinated research and development projects - Build-up of research and development infrastructure <p><i>Industrial integration and clustering</i></p> <ul style="list-style-type: none"> - Setting up industrial synergies in the areas of raw material supply, production and use of bio-energy - Promotion of Ghent and East-Flanders as an investment region <p><i>Public acceptance and sensibilisation</i></p> <ul style="list-style-type: none"> - Building up public trust and promoting acceptance of bio-energy and biobased products - Promotion of a sustainable energy policy at governmental levels
Financing	Ghent Bio-Energy Valley ⁷ is a joint public and private initiative of Ghent University, the city of Ghent, the Port of Ghent, the Development Agency East-Flanders and a number of industrial companies ⁸ related to the Ghent region that are active in the fields of bio-energy generation, distribution, storage and use.
Contact	The project is driven by Prof. Wim Soetaert of the University of Ghent. Dr. ir. Margriet Drouillon: margriet.drouillon@ugent.be http://www.gbev.org

⁷ <http://www.gbev.org/>

⁸ Alco-Bio Fuel, Bioro, Electrabel, SPE, Organic Waste Systems, Oiltanking, Oleon Biodiesel, Sea-Invest, Desmet Ballestra, Genencor International, Capricorn, Geodetics Construction Maintenance, Laleman, Cargill, Fabricom, Axtoll, Ernst & Young, BnS Engineering

II. POLICY

Public authorities can promote the quick take-up of industrial biotechnology innovations by implementing a number of “instruments” or policy initiatives. This can be the improvement of the regulatory framework; the integration of specification for bio-based products in public procurement; the establishment of standardisation, labelling and certification schemes to overcome perceived uncertainty about product properties and weak market transparency; the development of financial instruments and supports to increase investments into research, technology development and innovation as well as the elaboration of communication and information campaign to communicate the benefits of bio-based products to users.

A. Policies and regulations

i. Federal level

In 2005, the Belgian Federal Science Policy Office established the “Belgian Interdisciplinary Platform for Industrial Biotechnology” – BIPiB – in view of promoting industrial biotechnology in Belgium. BIPiB’s mission was to identify the difficulties for developing industrial biotechnology in Belgium. Furthermore, a number of tasks were defined, particularly the definition of a long-term strategy for developing white biotechnology in Belgium⁹. The platform is not active and no recommendations were implemented.

Bio.be’s (the Belgian biotech industry association) Industrial Biotech working group plans to review the national SusChem situation, especially in Wallonia. A feasibility study would be the first objective

ii. Flanders

The “Flemish roundtable around Chemistry” came with the establishment of a working group on bio-energy and industrial biotechnology. This working group is a forum for all relevant stakeholders. A first position paper around biofuels is underway.

iii. Wallonia

No information.

B. Public procurement

Specific public procurement for bio-based products does not exist in Belgium.

C. Standardisation, labelling and certification

There is no standardisation, labelling or certification system for bio-based products in Belgium nor has industry developed its own system.

D. Access to finance

i. Federal level

⁹ The BIPiB report is available on: http://www.belspo.be/belspo/home/actua/2006_03_30_BIPiB_en.pdf

Financing is a regional matter. There are very few funds at the federal level supporting research, innovation or establishment of enterprises.

ii. Flanders

IWT¹⁰ is the Institute for the Promotion of Innovation by Science and Technology in Flanders. The organisation stimulates and supports innovation through two instruments.

The organisation grants financial support to companies, research institutes, individual researchers as innovation intermediaries. Companies are provided with financial support for executing industrial research and development projects. Special attention is given to SMEs for which there are formulas called 'innovation studies and innovation projects', with special attention for administrative simplification. Research institutes (universities, high school, research centres) can apply for projects in strategic basic research, collective research and technology transfer. Individual researchers can also apply for support in their doctoral and postdoctoral (Master's) research projects.

IWT also promotes innovation by offering a number of services. IWT facilitates the search of enterprises for technological partners, in Flanders, at the European level and throughout the Enterprise Europe Network. IWT can also accompany each applicant to one of the 100 innovation centres in Flanders, and help them to choose the most appropriate formula of support, including support offered through the European Commission. This could be the Seventh Framework Programme or simply the best instrument coping with their specific need of the firm.

iii. Wallonia

No information

E. Communication

No information

i. Federal level

ii. Flanders

iii. Wallonia

¹⁰ http://www.iwt.be/iwt_engels/

III. OTHER

The Royal Belgian Academy Council of Applied Science¹¹ is a steering committee created by the Belgian academies of science (the Académie royale des Sciences, des Lettres et des Beaux-Arts de Belgique *and* the Koninklijke Vlaamse Academie van België voor Wetenschappen en Kunsten). In January 2004, the BACAS published a report¹² showing how biological production processes (white biotechnology) can create sustainable products that are good for people, the planet and businesses. The report states that white biotechnology is becoming a main contributor to green chemistry, where renewable resources such as sugars or vegetable oils are converted into a wide variety of fine and bulk chemicals, pharmaceuticals, biocolorants, solvents, bioplastics, vitamins, food additives, biopesticides, enzymes and biofuels such as bioethanol and biodiesel.

¹¹ <http://www.kbr.be/~capas/>

¹² <http://www.kvab.be/downloads/CAWET/Biotechnology%20EN.pdf>