



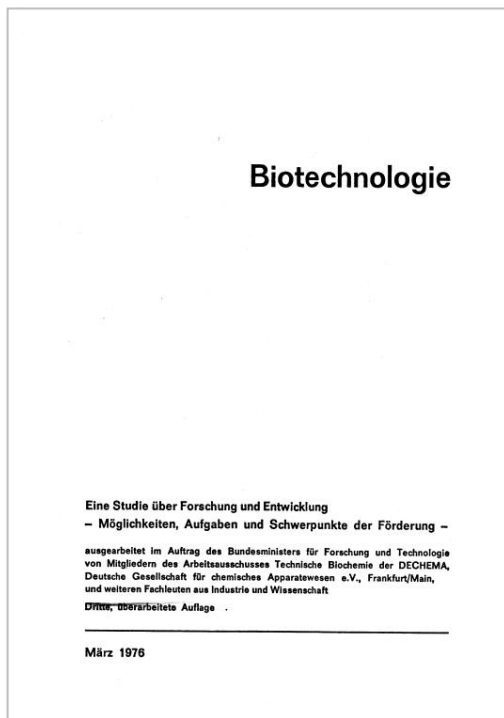
HOW TO SET UP A NATIONAL BIOECONOMY STRATEGY

The German Experience

BIOECONOMY – THE GERMAN EXPERIENCE

- Background: The two pillars of the German bioeconomy
- The two strategies of the German bioeconomy
- Governing the German bioeconomy
- The new bioeconomy strategy: state of play

FROM BIOTECHNOLOGY TO BIOECONOMY



1974



2001



2010

BIOTECHNOLOGY

A RESEARCH AND DEVELOPMENT STUDY - OPPORTUNITIES, TASKS AND PRIORITIES FOR FUNDING (1974)

Biotechnology is an up-to-date scientific and technical discipline with **great future prospects**, its processes are themselves environmentally friendly and contribute excellently to **solving environmental problems**. The future **feeding of the world's population**, especially with proteins, the supply of medicines and other active ingredients are largely dependent on it. [...] It is a new branch of biological practice that is able to put into practice findings and results of microbiology, molecular genetics, biochemistry, chemistry and process engineering. (XIV f.)



FRAMEWORK PROGRAM BIOTECHNOLOGY (2001)

Biotechnology, key science of the new century

The new century, as confirmed by many, will be the **century of the life sciences**. [...]

Biotechnology develops into many research-oriented fields and forms numerous facets related to medicine, chemistry, physics, information technology and materials science. Today it is a typical **cross-sectional technology** with a "service character" for numerous application-oriented disciplines. (4)



NATIONAL RESEARCH STRATEGY BIOECONOMY 2030 (2010)

Global **food security**, renewable raw materials and energy from biomass, the conservation of **biological diversity**, **climate- and environmental protection**, and Germany's competitiveness are some of the major challenges facing this country at the beginning of this century. Meeting these challenges will require not only great **social, economic and political effort**, but also intense research efforts and new approaches to research and innovation. (2)



Our Vision

A natural cycle-oriented, sustainable biobased economy that carries the promise of global food supplies that are both ample and healthy, and of high quality products from renewable resources.

Our strategic objectives

1. In international comparison, Germany aspires to become a dynamic research and innovation centre for bio based products, energy, processes, and services.
2. With our research, we want to meet our responsibilities for global nutrition, as well for the protection of the climate, resources, and the environment.

Our measures

Securing global nutrition

Producing healthy
and safe foods

Ensuring sustainable
agricultural production

Developing biomass-based
energy carriers

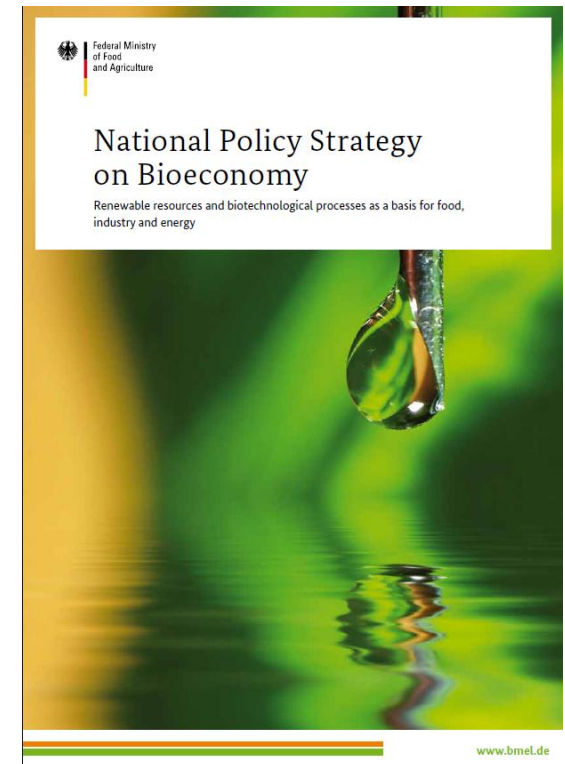
Using renewable resources
for industry

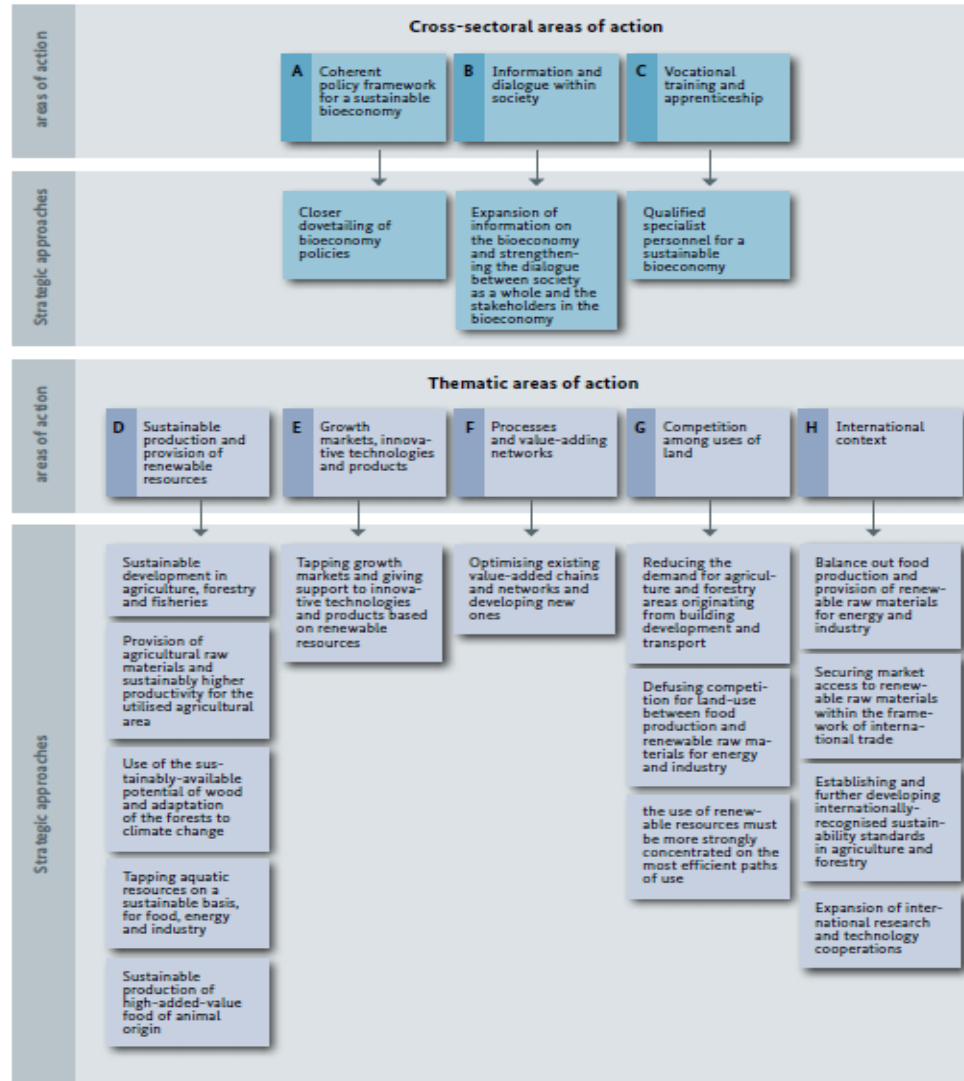
Cross-section activities: Developing interdisciplinary competencies, exploiting international cooperation, transferring transfer into practice, and intensifying dialogue with society.

National
Research
Strategy, p. 3

NATIONAL POLICY STRATEGY ON BIOECONOMY (2013)

The bioeconomy affects **various specific policy areas**, such as industry and energy policy, the policy on agriculture, forestry and fisheries, climate policy and environmental policy, in addition to research and development policy. In aiming to give coherent structure to policy, the political framework conditions for the bioeconomy must be arranged so that, within the limits of what is possible, a contribution is made to **securing world food supplies, reducing dependence on fossil-based raw materials, protecting the climate** and using the renewable resources sustainably, while safeguarding both **biodiversity** and the functions performed by soil. In part, these requirements give rise to **conflicts between goals**, which need to be resolved by means of suitable framework conditions. (9)





National Policy Strategy, p. 44

GOVERNING THE GERMAN BIOECONOMY

Examples of coordinating institutions

- Inter-Ministerial Working Group Bioeconomy
- Federal-State Working Group Bioeconomy
- Steering Group Bioeconomy Monitoring
(Ministries of Research, Agriculture, Economic Affairs)

THE GERMAN BIOECONOMY COUNCIL

Independent Advisory Group to the German Government

- First tenure: 2009-2012, second tenure: 2013-2019
- 17 members from science and industry
- Approx. 30 reports and recommendations since 2012
- Global Bioeconomy Summits 2015, 2018

DEVELOPING A NEW BIOECONOMY STRATEGY

National Policy Strategy: Progress Report 2017

National Research Strategy: Evaluation 2016/17

Bioeconomy Council

Agenda Process 2016-18



THE NEW GERMAN BIOECONOMY STRATEGY

- Focus on sustainability
- SDGs as reference framework
- Making use of converging technologies
- Common strategy, joint lead

THE NEW GERMAN BIOECONOMY STRATEGY – STATE OF PLAY

- 10/2018 Ministers of Research and Agriculture
 announce common strategy
- - 04/2019 exchange of drafts at working level
- 04/2019 - formal consultations
- Summer/
autumn 2019
(expected) cabinet decision and proclamation



Picture credits front page:

3D Assembly: Project Management Jülich, Forschungszentrum Jülich GmbH;

Pictures: IvanMikhaylov/iStock/Thinkstock, palau83/iStock/Thinkstock, PN_Photo/iStock/Thinkstock