



# Bioeconomy Factsheet Germany

July 2018

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



## BIOECONOMY GOVERNANCE

Germany's key governance bodies are the:

- Federal Ministry of Education and Research (**BMBF**)
- Federal Ministry of Food and Agriculture (**BMEL**)
- Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (**BMU**)
- Federal Ministry for Economic Affairs and Energy (**BMWi**)
- Bioeconomy Council (**Bioökonomierat**), an independent advisory board set up by the government
- **FNR**, the Agency for Renewable Resources set up by the government to support research and development around renewable resources

## BIOECONOMY STRATEGIES AND ROADMAPS

- National Policy Strategy on Bioeconomy (2014)
- National Research Strategy Bioeconomy 2030 (2011), set to be updated in 2018
- Research for a Biobased Economy (2017)
- National Sustainable Development Strategy (2016)
- White Biotechnology – Opportunities for a Biobased economy (2015)
- Bioeconomy in Germany (2014)
- Roadmap Bioraffinerien (2012)

There are also several bioeconomy strategies at state level.



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### LEGISLATION

The German government aims to increase the renewable fraction of electricity to 80% and to decrease greenhouse gas emissions by 80-95% (relative to their 1990 values) by 2050. A large part of the legislation for this is encompassed in the **EEG 2017**. One of the main aims of the EEG Act is "to promote the further development of technologies to generate electricity from renewable energy resources".

Renewable Energy Sources Act 2017 (Erneuerbare-Energien-Gesetz **EEG 2017**) and its predecessors.

Renewable Heat Energy Act (Erneuerbare-Energien-Wärmegesetz **EEWärmeG**).

## UNIVERSITY CENTRES AND RESEARCH

### Universities, such as:

- University of Hohenheim Research Center for Bioeconomy
- Technical University Berlin Exzellenzcluster UniCat
- Bioeconomy Science Center (BioSC), joint effort of RWTH Aachen, the Heinrich Heine University Düsseldorf, University of Bonn and the Jülich Research Center
- Technical University of Munich Campus Straubing for Biotechnology and Sustainability

### Research institutes, such as:

- Fraunhofer UMSICHT, Institute for Environmental, Safety, and Energy Technology, Oberhausen and Sulzbach-Rosenberg
- Forschungszentrum Jülich (**FZJ**)
- German Biomass Research Centre (**DBFZ**)

### Research clusters, such as:

- Science Campus Halle, including University of Halle, Leibniz institute and Helmholtz Centre for Environmental Research

## OPEN ACCESS PILOT PLANTS

- Center for Next Generation Processes and Products (NGP<sup>2</sup>), RWTH Aachen
- Fraunhofer Center for Chemical-Biotechnological Processes (CBP), Leuna
- Technical University of Munich's Pilot Plant for Industrial Biotechnology, Weihenstephan

## FINANCIERS

**KMU-Innovativ** – a scheme from the **BMBF** to simplify access to research funding for innovative SMEs. There is a special focus on some relevant fields, including biotechnology, materials science, resource efficiency and climate protection.

Biorefinery funding "**Technologie-Initiative Bioraffinerien**" by the **BMBF** as part of the National Bioeconomy Strategy 2030.

Renewable resources research funding "**Förderprogramm Nachwachsende Rohstoffe**", a scheme from the **BMEL** (carried out by the **FNR**) to support research, development and demonstration projects for the use of renewable resources.

**Energy and Climate Fund** (Energie- und Klimafonds).

## NETWORKS AND CLUSTERS INDUSTRY ASSOCIATIONS

### Industry associations:

- Chemical industry (**VCI**)
- Engineering industry (**VDI**)
- Biotechnology (**BIO Deutschland**)
- Biogas association (**Fachverband Biogas**)
- Bioethanol association (**BDBe and VDB**)

### Networks and Clusters (federal level)

- Bioeconomy Cluster
- Bio.NRW
- Biopro Baden-Württemberg
- Cluster Industrial Biotechnology (CLIB2021)
- Dechema
- IBB Network (Bayern)
- IBN



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## INDUSTRY STAKEHOLDERS

Germany is home to an array of large chemicals companies active in the bioeconomy, including **BASF, Bayer, Covestro, Evonik, Henkel, Linde** and **Wacker**.

Other large chemicals companies have manufacturing and research sites situated in Germany, such as **Clariant (Süd-Chemie)** who own the **Sunliquid** cellulosic bioethanol plant in Straubing.

Industrial enzymes are also produced in Germany by companies such as **AB enzymes**.

Many of Germany's engineering firms are supplying technology to the bioeconomy, including **Bosch Rexroth, Festo, Frings, Siemens, Thyssenkrupp Industrial Solutions** and **Vogelsang**.

There is also a strong agricultural industry in Germany. Some crop companies like **Südzucker (CropEnergies)** are active in the bioethanol sector, and some livestock technology companies like **Schaumann Bioenergy** are active in the biogas and biotech sector.

## 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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