



# Biotechnology for Energy Research

acib offers biotechnological solutions for energy storage, energy conversion, biofuels and biogas.

## BACKGROUND

There are currently huge technological advancements both in energy research and in biotechnology. A wise combination of those technologies will make an important contribution to a green and sustainable future!

## TECHNOLOGY

Biotechnology uses electricity converted into H<sub>2</sub> to empower bacterial growth, allowing the fixation of CO<sub>2</sub> and the subsequent conversion to i) proteins for food/feed, ii) bioplastics or iii) biofuels (e.g. butanol). For the generation of biofuels acib's expertise in enzyme discovery and enzyme/microbial engineering can support you even further!

Biogas (CH<sub>4</sub>) is an energy carrier which can be produced from all kinds of organic waste. The resulting digestate is used to improve soil quality and plant growth. To increase the commercial success and the characteristics of the digestate it is important to optimize anaerobic fermentation by introducing the right microorganisms for the specific task. acib's expertise is there to help you!

How can biotechnology help to generate huge amounts of energy and store them for long period of times as cheaply as possible? The solution is to use depleted underground gas reservoirs: If energy in form of hydrogen, together with CO<sub>2</sub> are both introduced into these environments, microorganisms are able to in situ transform them into natural gas, which can be stored for years before being used by existing infrastructure to power cars, heat households or provide energy to the industry. acib has a lot of expertise in this kind of research and can help you to identify suitable underground conversion and storage areas!

## OFFER

Under protection of a CDA/NDA we provide you with professional strategies for YOUR project. IP developed in such a project would belong to you as our investor/industrial partner.

## EXPERTS

Prof. Dr Georg Gübitz  
Prof. Dr. Helmut Schwab  
Prof. Dr. Heribert Insam  
Dr. Günter Bochmann  
Prof. Dr. Jürgen Zanghellini  
Dr. Dmytro Iurashev

## AVAILABLE FOR

- Investment
- Joint Research Projects
- Contract Research

## DEVELOPMENT STATUS

Technology Readiness Level 2-6

## IPR

Will be generated for our industrial partner / investor

## KEYWORDS

- Biotechnology
- Energy Research
- Energy Storage
- Biogas
- Biofuels
- CO<sub>2</sub>-Recycling

## CONTACT

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