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PRESSEMITTEILUNG

Milestone for research and teaching: University of Hohenheim is publishing new bioeconomy textbook edition

Second edition of the standard work on the bioeconomy has been completely revised and comprehensively expanded in terms of content and didactics – now online & as a hardcover

PRESSEFOTOS unter www.uni-hohenheim.de

The bioeconomy is more than just a global trend – it is the key to a sustainable future. In view of global challenges such as climate change, resource scarcity, and food security, there is a growing need for specialists with interdisciplinary knowledge. A well-founded and comprehensive description of all aspects of a sustainable bioeconomy is offered by the English-language textbook that the University of Stuttgart, under the leadership of Professor Dr. Iris Lewandowski, has now published in a second, greatly expanded edition. The publisher and editors are also breaking new ground didactically. Entitled “Bioeconomy ? Advancing the Transition to a Sustainable, Biobased Economy,” the book offers valuable information not only for students, but also for experts and others interested in the topic.

The bioeconomy ? the use of biological resources and biotechnological processes for a sustainable economy without fossil raw materials ? is becoming increasingly important. It is being driven forward worldwide; for example, the European Commission’s bioeconomy strategy was updated in 2025. The textbook introduces this sustainable, bio-based economy, and explains how different disciplines and stakeholders can work together along the entire value chain.

Guidelines

“For the development of the bioeconomy, we need experts who can think systemically and work on an interdisciplinary basis along bio-based product chains,” explained Professor Lewandowski, director of the editorial team. She leads the “Biobased Products in the Bioeconomy” department at the University of Hohenheim and is Chief Bioeconomy Officer.

The University of Hohenheim launched the first international Master’s program in Bioeconomy

back in 2014. The textbook designed for this purpose in 2018 quickly established itself as a global standard work for teaching the bioeconomy. The almost 400,000 views of the first edition show the high level of interest in this forward-looking topic.

Second edition

The content and structure of the second edition has now been revised and comprehensively updated. It can be accessed online free of charge and is also available in hardcover. The content provides a systematic introduction to the bioeconomy – from the basics of biomass production and processing to current market mechanisms and political strategies.

The content of the book has been expanded to six parts. New chapters deal with the principles of the bioeconomy, sustainability, and normative aspects as well as the monitoring of the bioeconomy. In addition, a separate section is dedicated to the different perspectives of interest groups such as farmers, consumers, researchers, and political figures.

The almost 80 authors also look to the future of their students. “We want to make it clear what appointments are available in the bioeconomy and what skills future bioeconomists should have,” said Prof. Lewandowski.

The content

- **Fundamentals and principles of the bioeconomy:** An introduction to concepts such as the circular economy, sustainability, and bio-based value chains.
- **Systems for the production of biomass:** From agricultural and forestry production to innovative approaches such as urban agriculture, insect breeding, and the use of biogenic waste streams.
- **Processing:** Methods for converting bio-based resources into products for food, energy, and materials, including modern biorefineries and AI-supported processes.
- **Markets for bio-based products and the economy of a sustainable bioeconomy:** An analysis of the global markets for bio-based products and strategies for optimal resource allocation.
- **Stakeholders:** The role of politics, businesses, consumers, and science in promoting sustainable bioeconomy.
- **Guide to the bioeconomy:** Methods to assess and support the transition to a future-oriented bioeconomy.

Multimedia learning provision for flexible learning

The experts and publishers are also breaking new ground in terms of didactics, going far beyond the usual teaching materials. In addition to classic elements such as summaries, key terms, and interactive exercise courses, the second edition also offers multimedia learning opportunities: Summary videos and videos going into more depth make it easier to understand the complex topics and support a modern hybrid teaching approach. Each chapter is rounded off with questions to test knowledge and promote in-depth learning.

The textbook is not only intended for students, but also for researchers, experts, and decision-makers who want to deal with the bioeconomy. Thanks to its flexible teaching approach, it allows both a quick introduction and overview, as well as an in-depth examination of specific technologies and topics. The content presents the bioeconomy very comprehensively and illustrates it with numerous concrete examples, including potential future bio-based products.

Further details:

The 688-page textbook “Bioeconomy – Advancing the Transition to a Sustainable, Biobased Economy” is available as a free open source file or can be ordered as a hardcover from Springer for 54.09 euros or as a softcover for 39.99 euros.

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