

Transformation to a sustainable bioeconomy needs global thinking

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European Bioeconomy Scientific Forum

Moving towards the transformation

7.9.2023



What is bioeconomy today?



Quelle: Bioökonomierat, 2016

- Sustainable production and use
- of biological resources (also know how),
- to provide products, processes and services
- In all economic sectors
- **and bioeconomy is a key element in transforming our economy to a sustainable (and circular) economy and in meeting climate challenges**

Future of bioeconomy

Mitigating global crises

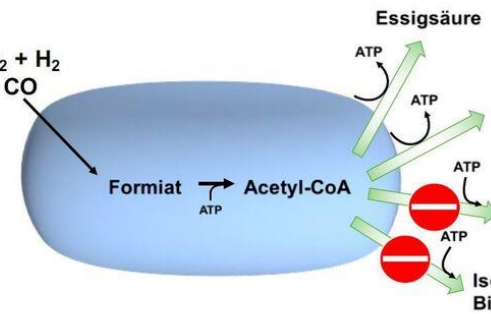


Shaping the transformation of the economy

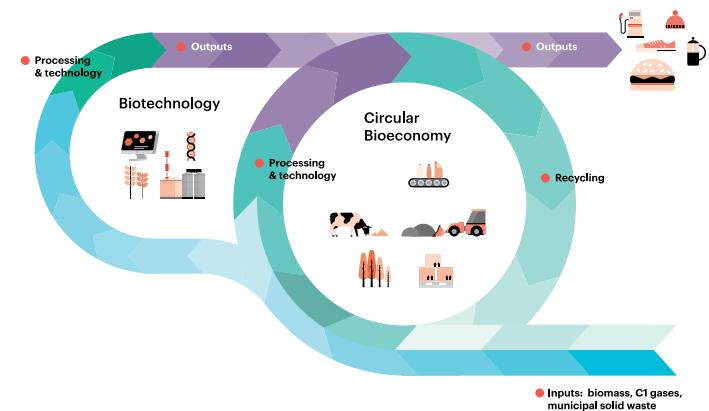


- **Added value of bioeconomy in transformation**
- **Global trends and developments**
- **Drivers of change**

Utilize carbon from biomass or CO_2 „de-fossilation“



Produce and use circular „Nature knows no waste“



Help biodiversity and boost climate resilience



- **Added value of bioeconomy in transformation**
- **Global trends and developments**
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Global Bioeconomy Policy Report (IV):

A decade of bioeconomy policy development around the world

A report from the International Advisory Council on Global Bioeconomy



- 49 countries have already developed BE-related policy strategies
- 16 of them (incl. EU) have already developed dedicated BE policy strategies

Many countries have adopted new or updated bioeconomy strategies in 2022.

THE WHITE HOUSE



SEPTEMBER 12, 2022

Executive Order on Advancing Biotechnology and Biomanufacturing Innovation for a Sustainable, Safe, and Secure American Bioeconomy

BRIEFING ROOM PRESIDENTIAL ACTIONS

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China April 2022
USA September 2022
East Africa 2021/2022
Finland March 2022



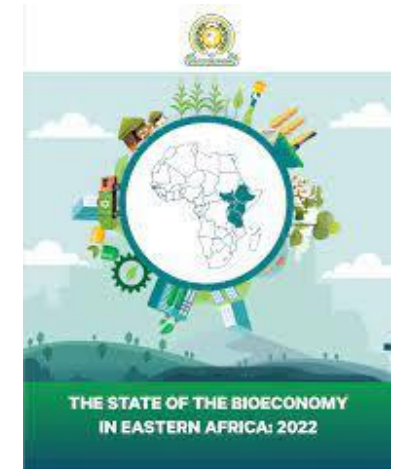
China unveils five-year plan for bioeconomy

By Ouyang Shijia | chinadaily.com.cn | Updated: 2022-05-10 13:12

f t in +



An aerial photo shows the Kekeya green project in Aksu, Northwest China's Xinjiang Uyghur autonomous region. [Photo/ts.cn]

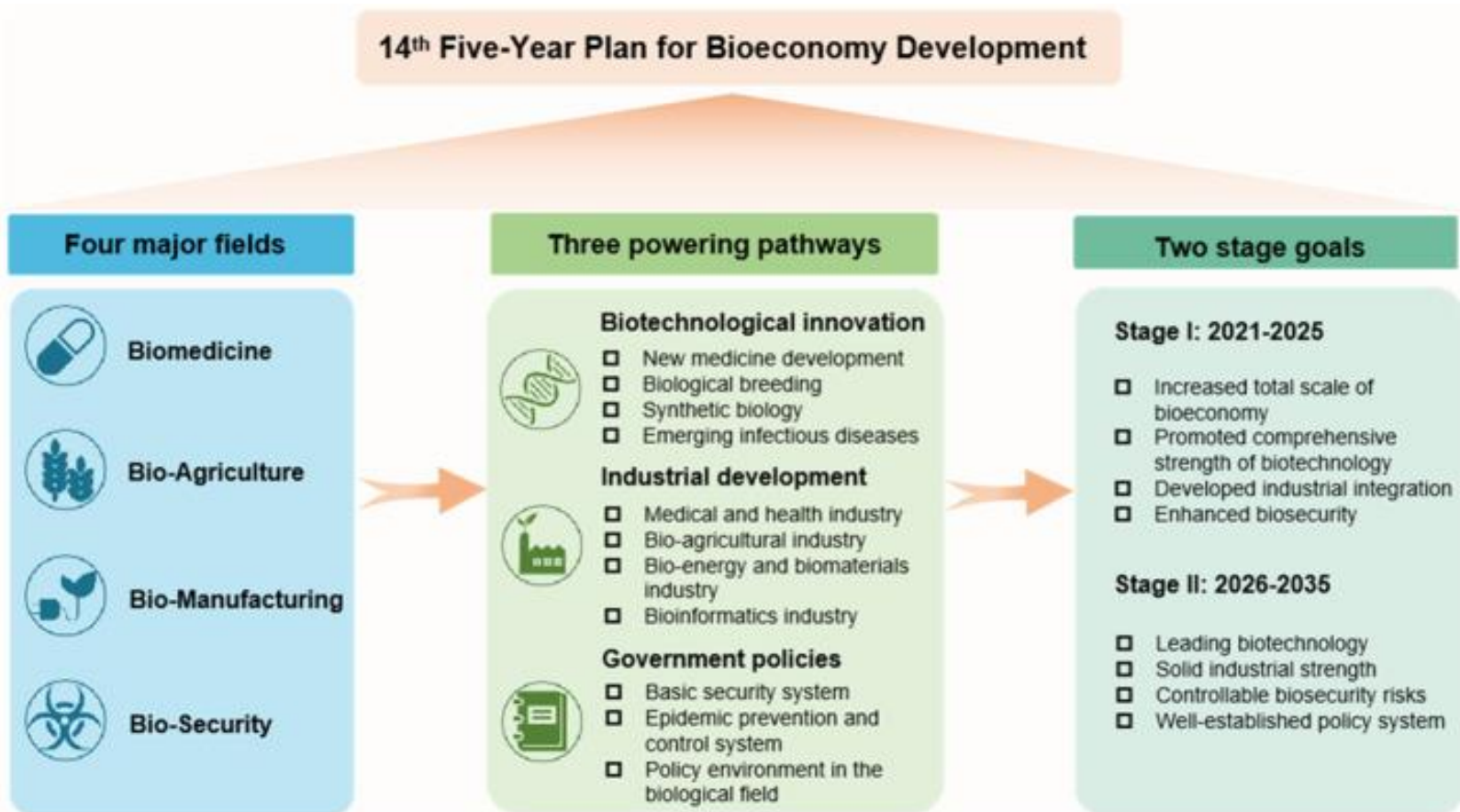


China Bioeconomy 2022



China has launched its first five-year plan for the development of the biotechnology economy, vowing to raise the value of the sector to 22 trillion yuan (\$3.3 trillion) and nurture more companies with revenues upward of 10 million yuan.

China Bioeconomy 2022



US boosting bioeconomy to compete with China



US Bioeconomy 2022

FORBES > BUSINESS > MANUFACTURING

White House Unveils Strategy To Grow Trillion Dollar U.S. Bioeconomy

John Cumbers Senior Contributor 
Synthetic biology author.

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Sep 12, 2022, 05:00am EDT



REPORT TO THE PRESIDENT
Biomufacturing to Advance the
Bioeconomy

Executive Office of the President
President's Council of Advisors on
Science and Technology

December 2022

Plugging into Existing Value Chains

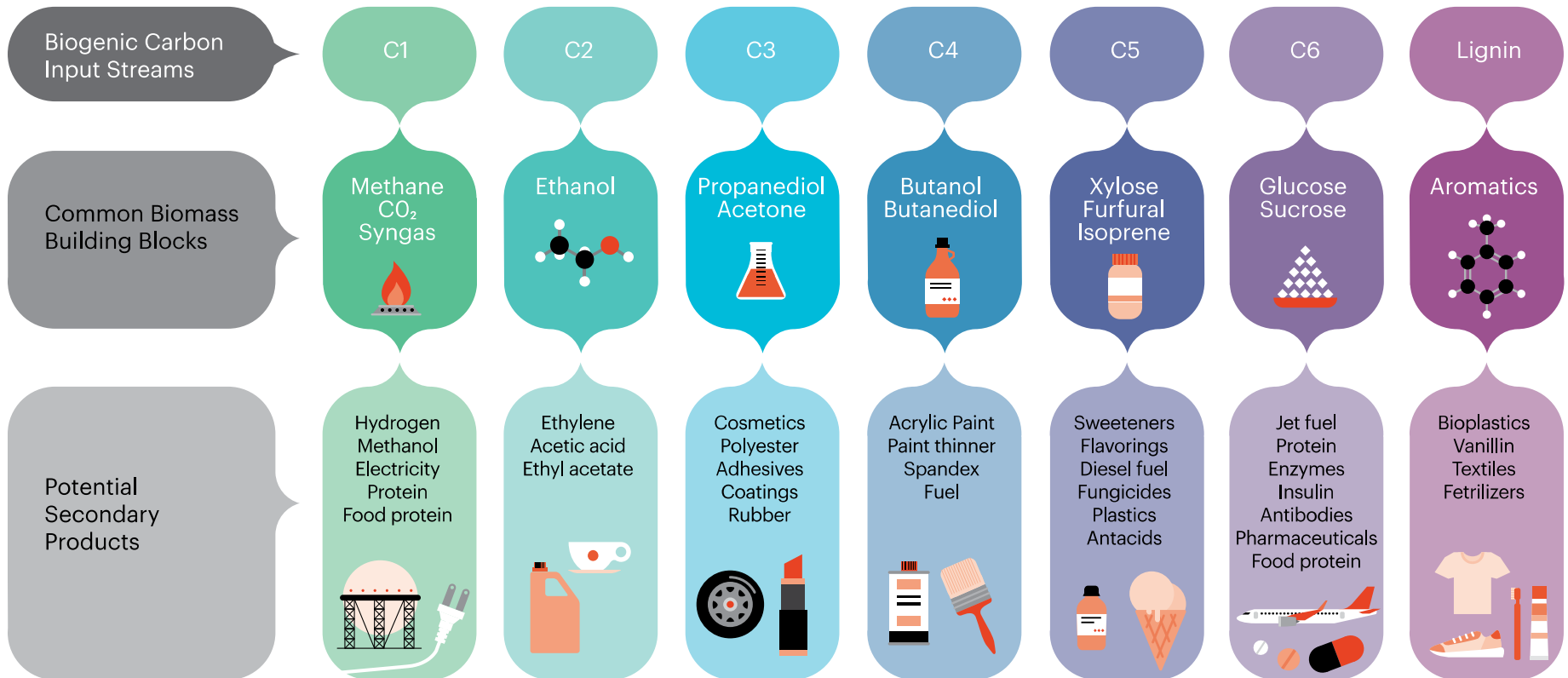
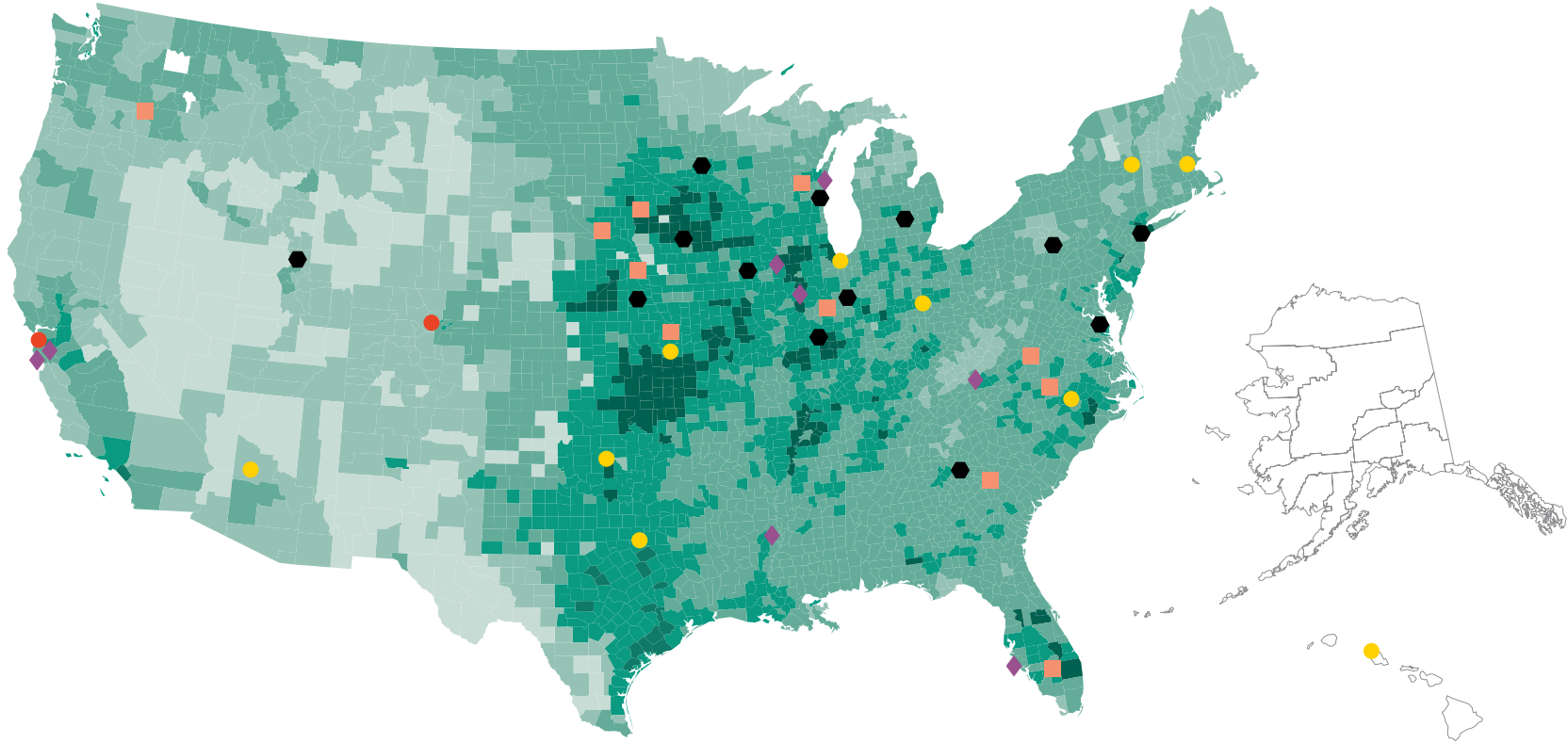


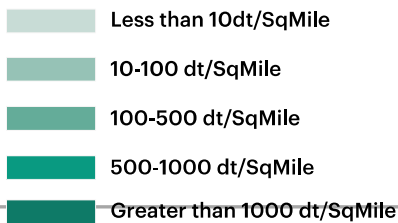
FIGURE 2 A hypothetical biomass-utilizing, carbon building-block pipeline would produce carbon feedstocks that plug into existing value chains and infrastructure for production of a range of consumer and industrial products.

Hodgson, A., Alper, J., Maxon, M.E. 2022. *The U.S. Bioeconomy: Charting a Course for a Resilient and Competitive Future*. New York, New York: Schmidt Futures. <https://doi.org/10.55879/d2hrs7zwc>

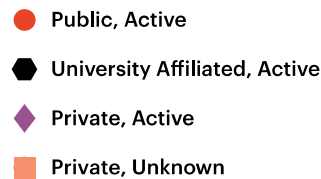
US Bioeconomy Roadmap



Potential Biomass Resources



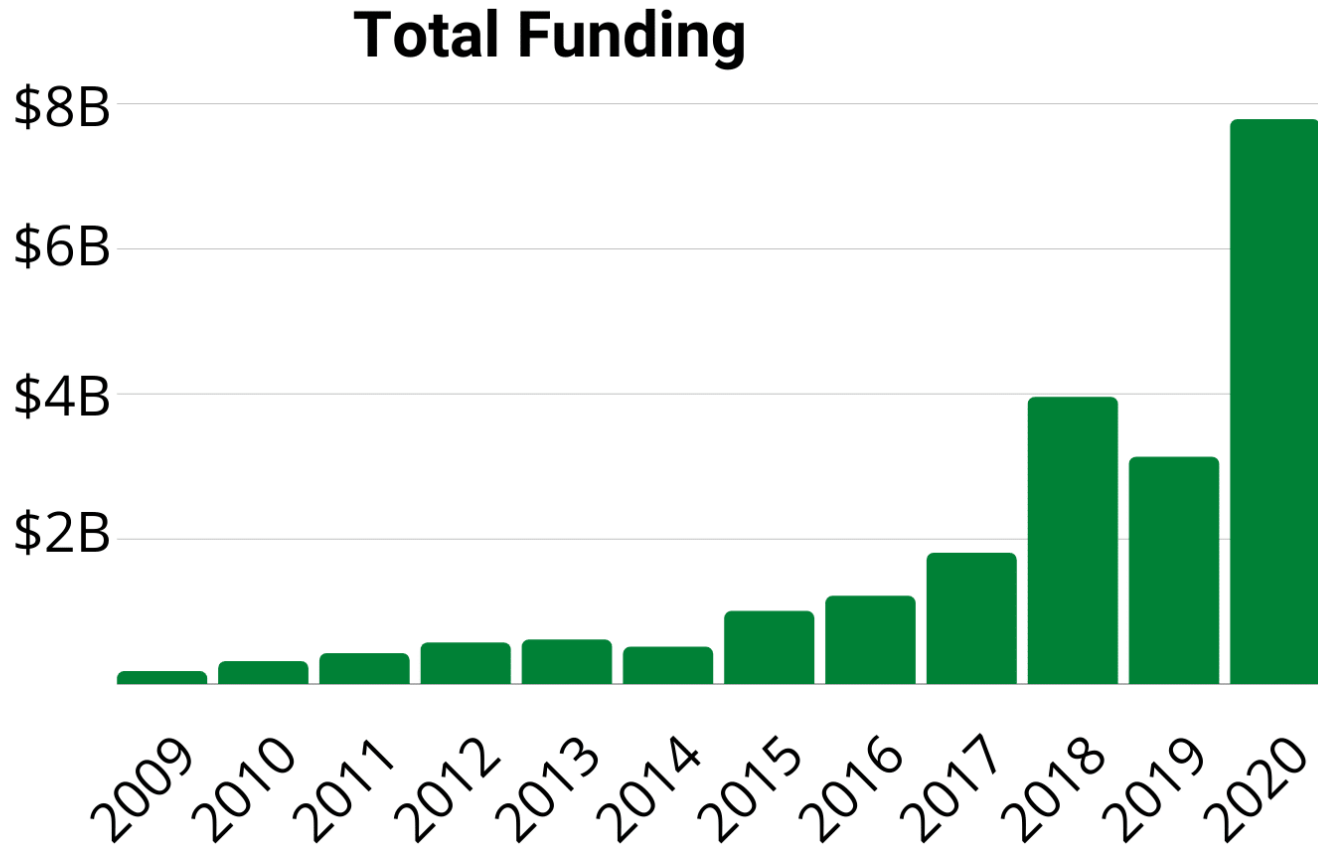
Bio manufacturing Facilities



Bio manufacturing Innovation Areas



Investments in Biotech in USA



Funding for synthetic biology companies, 2009–2020. Synthetic biology companies raised almost USD\$8 billion last year. (SYNBIOBETA)

Investments in Biotech in USA

Tech Founders
are Investing
in Synthetic
Biology



Marc Andreessen



Bill Gates



Bryan Johnson



Vinod Khosla



Max Levchin



Eric Schmidt



Peter Thiel



Jerry Yang



These tech titans know a good thing when they see it, and they're investing big-time in synthetic biology. (SYNBIOBETA)

**Global Bioeconomy
Policy Report (IV):**

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development around the world

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Costa Rica

**NATIONAL
BIOECONOMY
COSTA RICA 2020 - 2030 STRATEGY**

Why the bioeconomy?

Increasing resilience and sustainable use of biodiversity

Strengthening sustainable economic, social and environmental development

Transitioning to a post-fossil-resources society

Promotion and application of scientific knowledge in biological and life sciences



Why the bioeconomy in Costa Rica

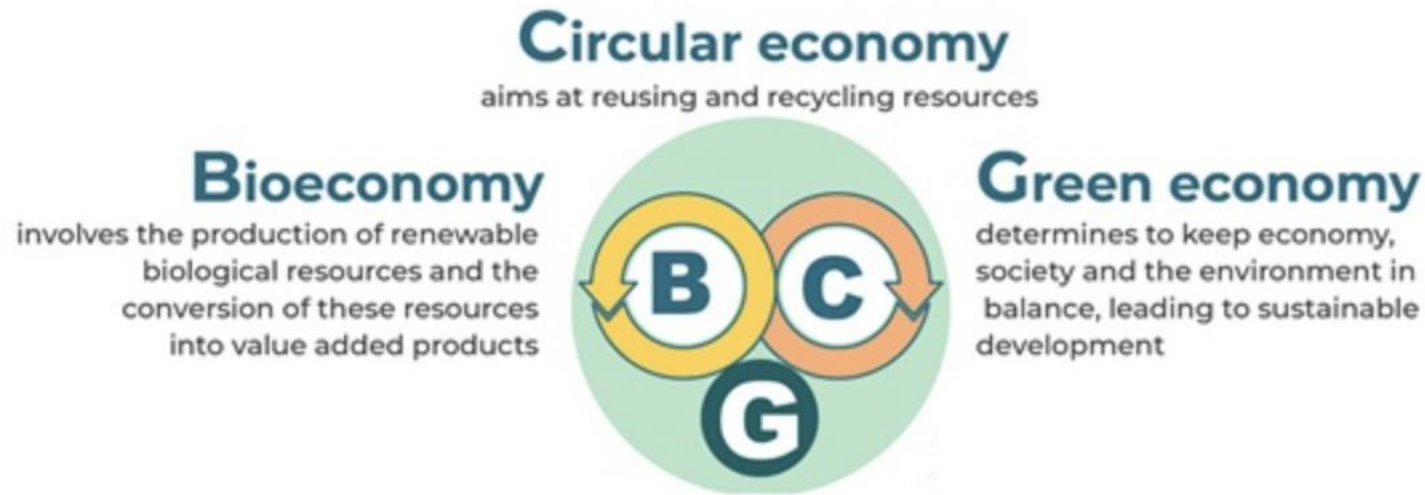


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Thailand

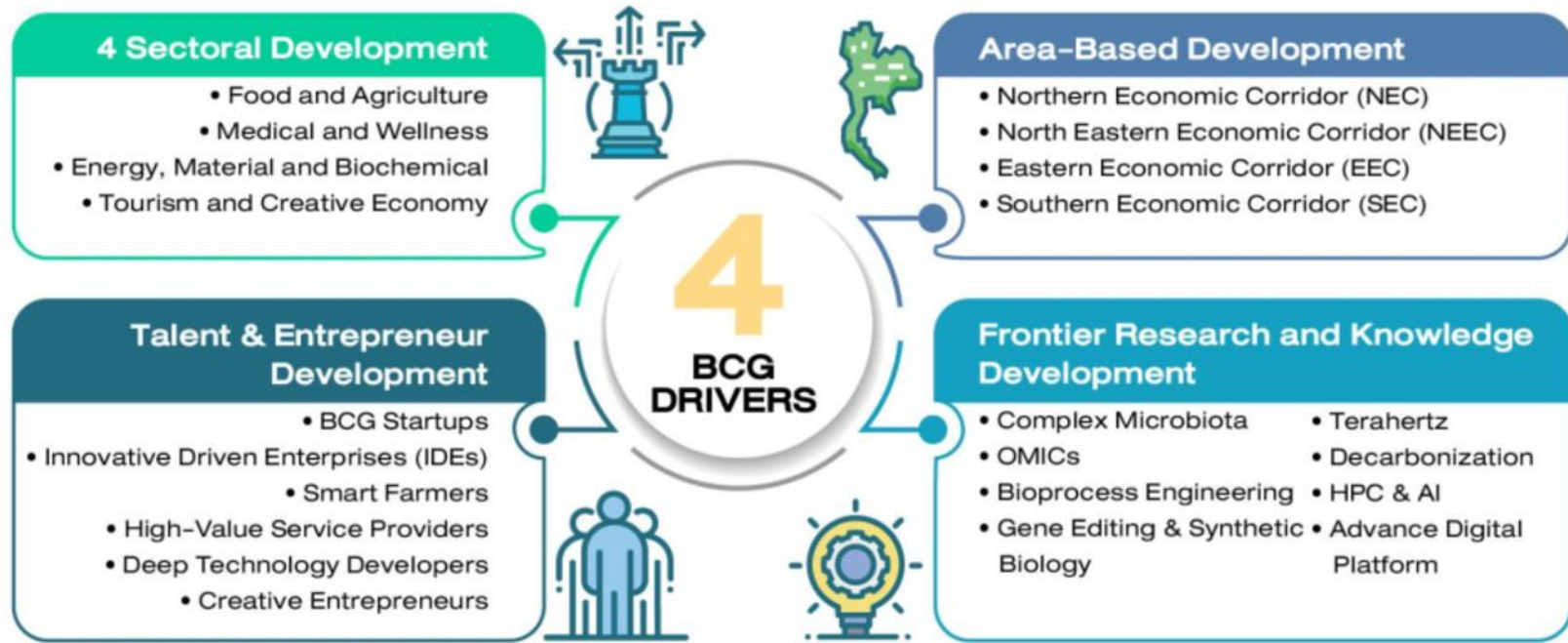


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Thailand



**Dr. Suvit Maesincee, "BCG Model: Sustainable Economic Model"

- **Added value of bioeconomy in transformation**
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Local and regional value networks

TREFFEN IN DAVOS

Eine Krise nach der anderen: Weltwirtschaftsforum sagt Ende der Globalisierung voraus

Die Globalisierung hat den weltweiten Wohlstand erhöht, steht laut einer Studie aber vor dem Ende. Kurz vor dem Davos-Treffen zeichnen Entscheider ein düsteres Bild der Zukunft.



Moritz Koch

11.01.2023 • Update: 11.01.2023 - 11:30 Uhr • 25 Kommentare • 19 x geteilt



Feature

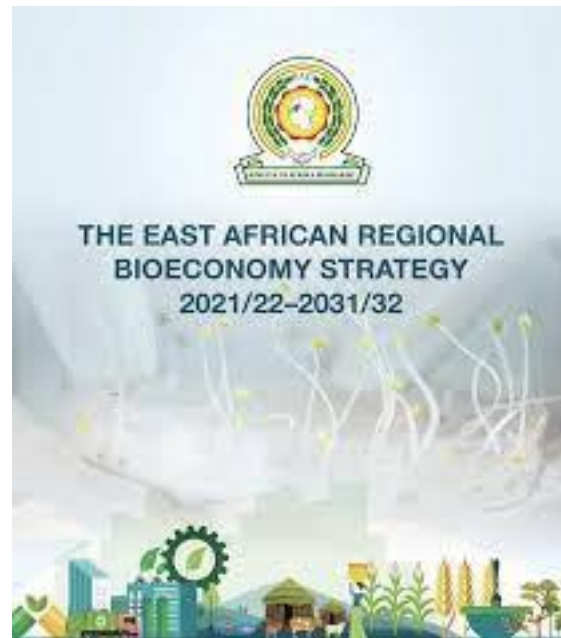
From bitter orange to sweet harvest: The bioeconomy success of Wang Som Sa village in Thailand

Start reading ↓

Through reviving a local variety of orange, a local community in Thailand's Phitsanulok province has revitalized their environment and local livelihoods.

[Kuntum Melati](#) / Published on 27 June 2023 / Phitsanulok, Thailand

[Kuntum Melati](#) / Published on 27 June 2023 / Phitsanulok, Thailand



Local and regional value networks

Private sector innovation and investment



ESG is essential for companies to maintain their social license

Although valid questions have been raised about ESG, the need for companies to understand and address their externalities is likely to...

10.08.2022



Strengthening the U.S. Biomanufacturing Sector Through Standardization

The advancement and commercialization of bioprocesses in the United States is hindered by a lack of suitable and available pilot-scale and...

01.06.2023



Local and regional value networks

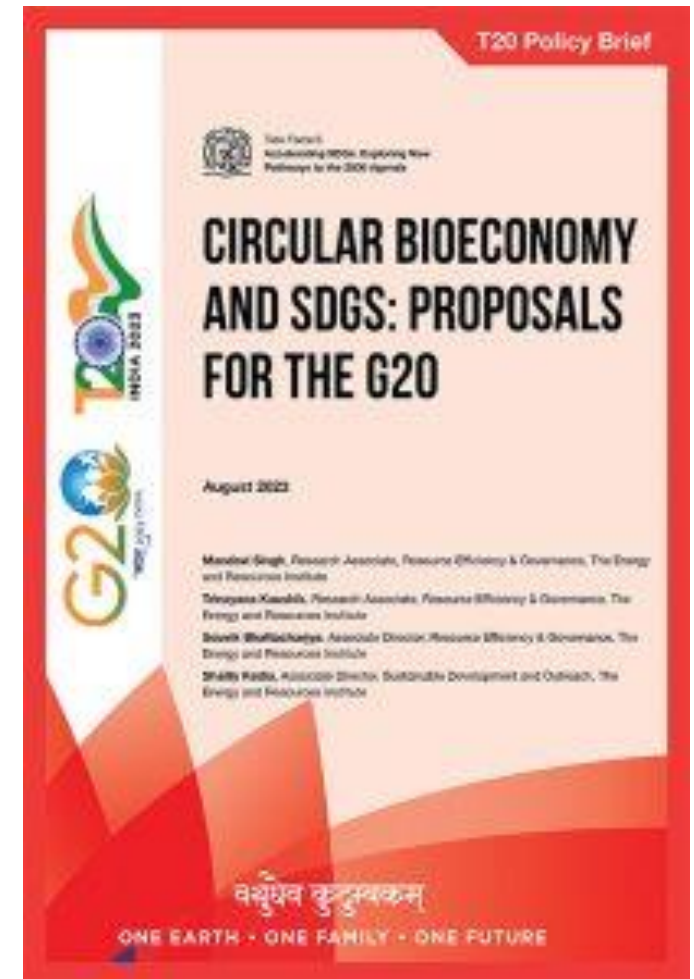
Private sector innovation and investment

Bioeconomy gets on the Global Agenda



Meeting climate targets through circular bio-based solutions

17 November 2022



Thank you!

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