

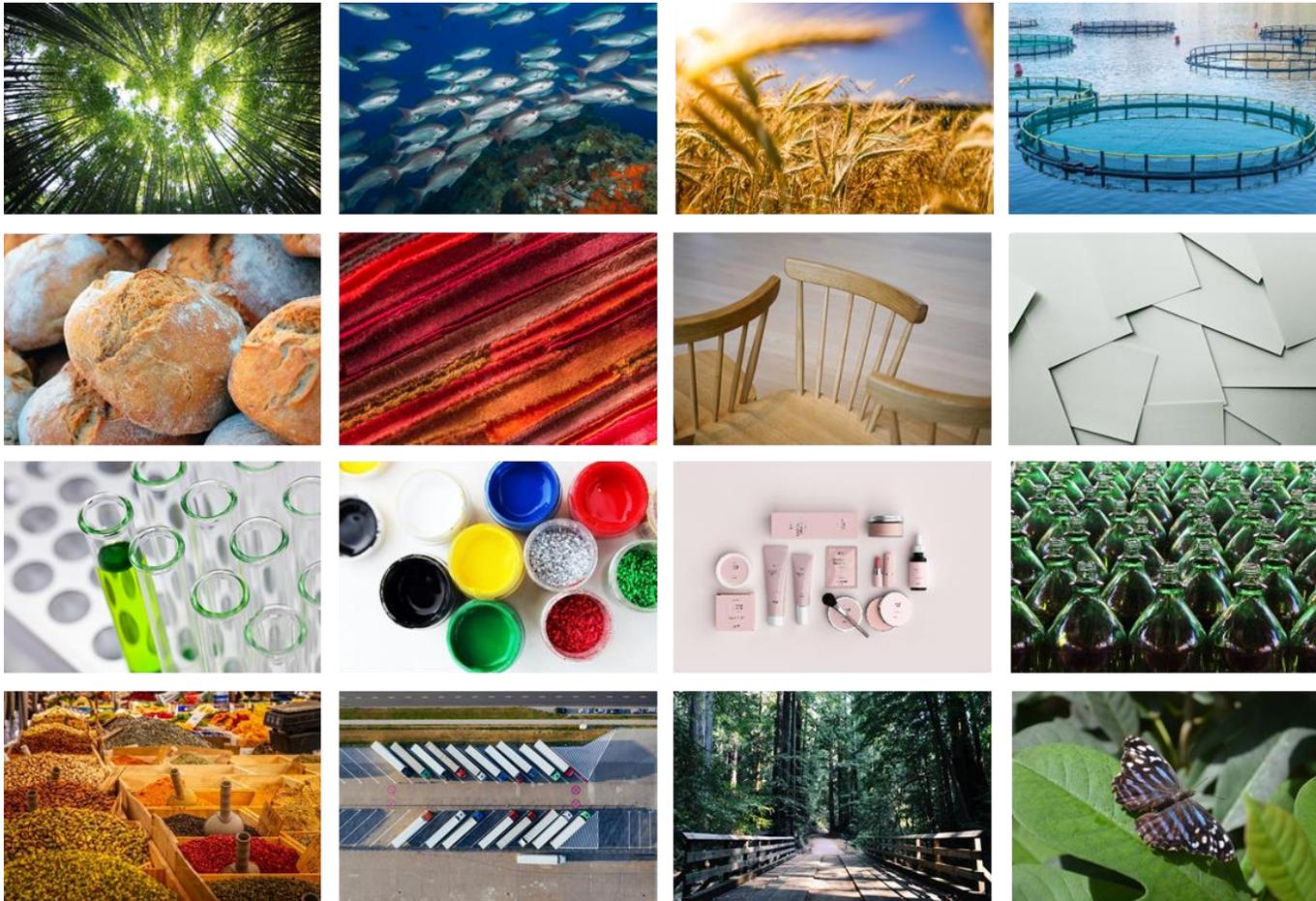


Deployment of bioeconomies across Europe

Peter Wehrheim
DG Research & Innovation
Bioeconomy & Food Systems Unit

Castile and León's First Bioeconomy Forum
27 October, 2021

What is the EU's understanding of the bioeconomy.....



Primary production

Processed biomass

Bio-based materials

Services incl. ecosystem services



EU BIOECONOMY

European Commission's Knowledge Centre for Bioeconomy


EMPLOYMENT
(MILLION JOBS)
17.5


VALUE ADDED
(BILLION EUR)
614

EMPLOYMENT (MILLION JOBS) VALUE ADDED (BILLION EUR) VALUE ADDED (SHARE TOT)

	AGRICULTURE	9.3	189	31%
	FORESTRY	0.5	25	4%
	FISHING AND AQUACULTURE	0.2	7	1%
	FOOD, BEVERAGES AND OTHER AGRO-MANUFACTURING	4.4	215	35%
	BIO-BASED TEXTILES	0.7	21	3%
	WOOD PRODUCTS AND FURNITURE	1.4	47	8%
	PAPER	0.6	42	7%
	BIO-BASED CHEMICALS AND PHARMACEUTICALS, PLASTICS AND RUBBER	0.4	60	10%
	LIQUID BIOFUELS	0.02	3	1%
	BIOELECTRICITY	0.02	4	1%

A key sector of the EU economy

- ~8.9% of the EU workforce
- ~75% employed in agriculture, food and drink industry
- 4.7% of GDP
- Sectors with “High value added/person employed” e.g. bio-based pharmaceuticals, chemicals and plastics

The EU Bioeconomy Strategy and Action Plan



- **SUSTAINABILITY** and **CIRCULARITY** at its core
- **SYSTEM-wide** approach
- Policies across sectors, addressing trade-offs, co-benefits
- More than research & innovation
- **Delivering for the citizens**, in particular in rural areas
- A set of **14 well-defined actions** including a monitoring system with clear indicators



“The European Green Deal is Europe’s Man on the Moon Moment” December 2020

“The fossil fuel economy has reached its limits!” July 2021

#EUGreenDeal



European
Commission



“ *With its potential to connect and implement transformative policies holistically, the bioeconomy will contribute to all dimensions and objectives of the European Green Deal. Research and innovation will enable Europe to lead the green and digital transition.* ”

Mariya Gabriel, EU Commissioner for Innovation, Research, Culture, Education and Youth

*Research and
Innovation*

A circular and sustainable bioeconomy has the potential to contribute to all dimensions and objectives of the European Green Deal by:

- **Delivering on Europe’s economic prosperity and ensuring a fair and just transition.**
- **Producing fossil-free materials for a climate-neutral future.**
- **Enhancing the protection of the environment and ecosystems.**

See Factsheet on **How the bioeconomy contributes to the Green Deal** (<https://op.europa.eu/en/web/eu-law-and-publications/publication-detail/-/publication/66722c8d-2e03-11eb-b27b-01aa75ed71a1>)

Bioeconomy & The European Green Deal

CLIMATE PACT AND CLIMATE LAW

Carbon sequestration in soils, blue carbon and forests and material substitution of fossil-based products (plastics, energy, textiles) can generate significant carbon savings.

INVESTING IN SMARTER, MORE SUSTAINABLE TRANSPORT

Urban bioeconomy policies across Europe promote the innovative transformation towards sustainable transportation.

STRIVING FOR GREENER INDUSTRY

The local deployment of one biorefinery can create up to 4000 jobs in four years and better recycling of high value organic waste in cities could create 1200 new jobs in the long run.

ELIMINATING POLLUTION

Up to 12 million tons of plastic are dumped in our oceans every year, but with the help of bioeconomy this amount can be reduced by 90% by 2025.

The bioeconomy will create 1 million new green jobs by 2030, in particular in rural and coastal areas.

The European Circular Bioeconomy Fund, with a volume of up to 250 million EUR will invest in innovative circular bioeconomy projects, in the areas of agriculture, aquaculture and fishery, forestry, biochemical and biomaterials.

ENSURING A JUST TRANSITION FOR ALL

FINANCING GREEN PROJECTS

MAKING HOMES ENERGY EFFICIENT

The use of 1 ton of wood instead of 1 ton of concrete in construction can lead to 2.1 ton carbon dioxide reduction construction.

LEADING THE GREEN CHANGE GLOBALLY

The European Commission leads global bioeconomy initiatives, such as the International Bioeconomy Forum.

FROM FARM TO FORK

Avoiding food waste can save up to €143 billion annually. Algae farming can be a new source of renewable biomass for food and green products. Algae has the advantage of producing potentially high yields with minimum land requirements.

PROTECTING NATURE

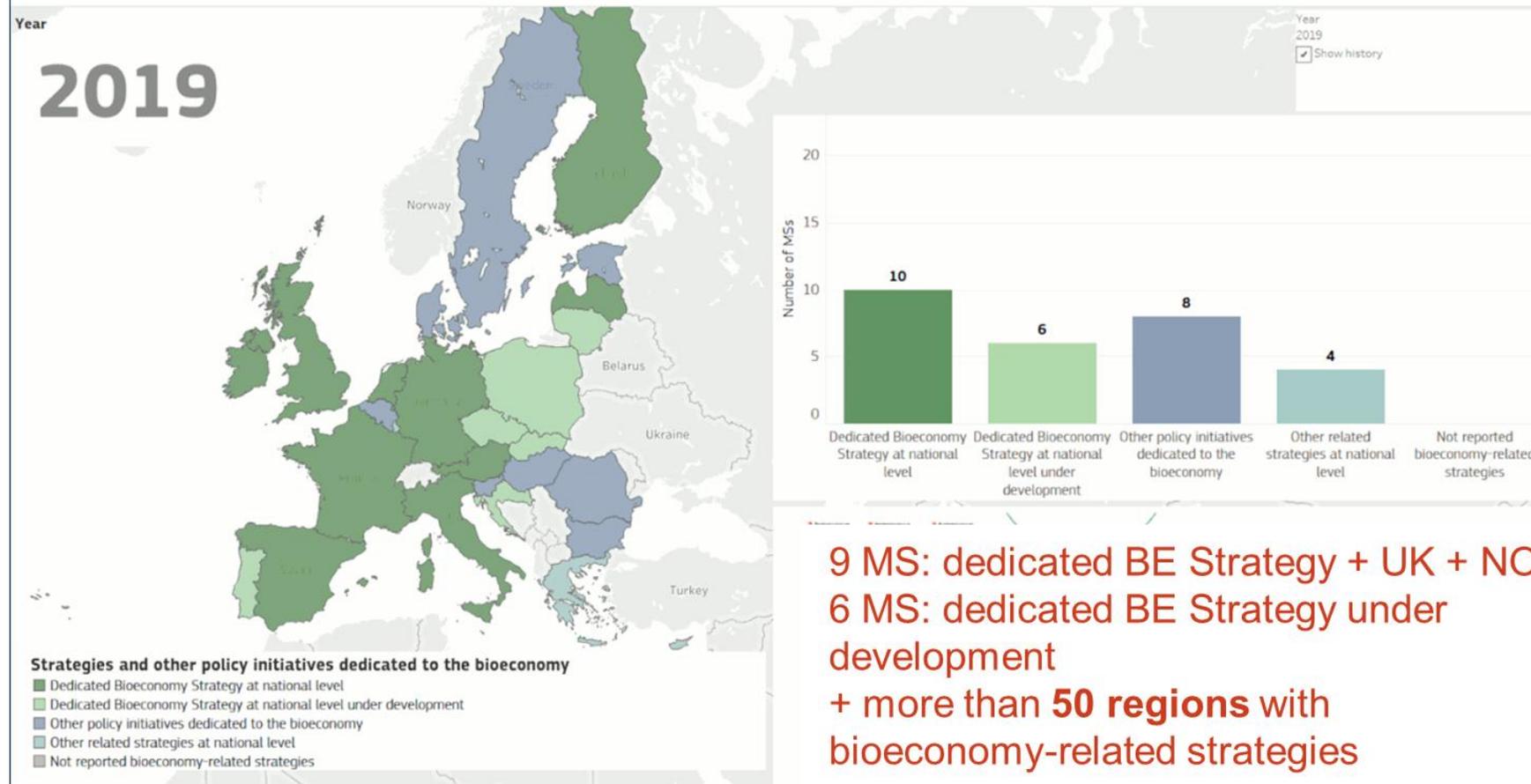
A sustainable bioeconomy values natural resources, diminishes environmental pressures and increases the use of sustainable renewable products, restores and enhances ecosystems' functions and biodiversity.

PROMOTING CLEAN ENERGY

Unavoidable waste can be converted into energy including fuels for sectors for which electrifications is still challenging (aviation, maritime).

National Bioeconomy Strategies

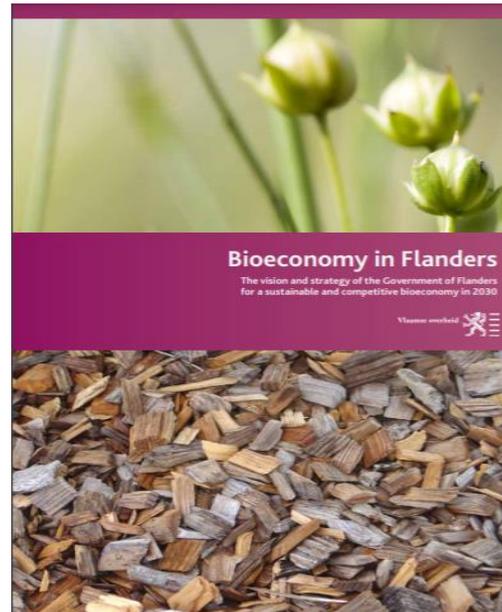
Evolution of the strategies and other policy initiatives dedicated to the bioeconomy



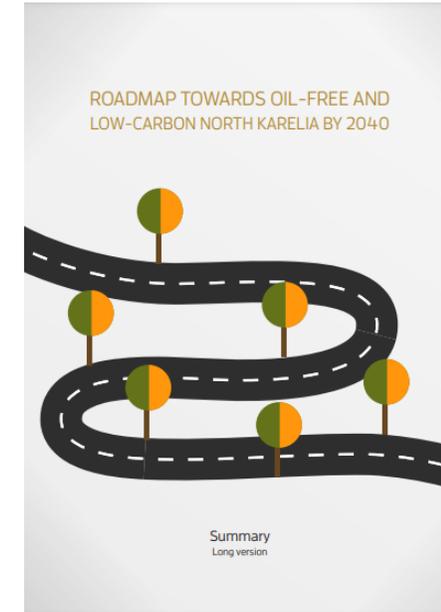
Regional Bioeconomy Strategies



Bayern Bioeconomy Strategy



Flanders Bioeconomy Strategy



North Karelia 2040 Strategy



European Forest Institute - Bioregions Facility
The Bioregions Facility promotes Trans-regional cooperation for a sustainable and integrative forest-based circular bioeconomy.



Interactive bioeconomy country dashboard

Bioeconomy country dashboard

Strategies & Initiatives | Bioeconomics | Bioenergy | Algae production

Strategies and other policy initiatives dedicated to the bioeconomy

Status as of November 2019

- Dedicated Bioeconomy Strategy at national level
- Dedicated Bioeconomy Strategy at national level under development
- Other policy initiatives dedicated to the bioeconomy
- Other related strategies at national level

Spain (ES)

Regional strategies

Regional dedicated bioeconomy strategy

Circular Bioeconomy Strategy of Andalusia	2016
Valencia Bioeconomy Strategy (in preparation)	
Extremadura Bioeconomy Strategy (in preparation)	2018
Catalonia Bioeconomy Strategy (pending publishing)	2019
Castile-Leon Bioeconomy strategy (in preparation)	2019
Aragon Bioeconomy Strategy (in preparation)	
Asturias Bioeconomy Strategy (in preparation)	
Murcia Bioeconomy Strategy (in preparation)	

Other regional bioeconomy initiative

Castilla La Mancha - CLaMber Project (Pilot Biorefinery)	2017
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Macro-regional strategies

Macro-regional bioeconomy initiative

Vanguard Initiative	2013
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+ Note

Other national bioeconomy-related

Webtools | Leaflet | Credit: EC-GISCO, © EuroGeographics © UN-FAO for the administrative boundaries, @Eurogeographics | Disclaimer

Study on mapping the deployment of regional bioeconomies in Europe

Objectives of the study:

- Mapping regulatory frameworks with a focus on regional bioeconomy strategies
- Analysis of commonalities and divergences among regional strategies across the EU



- objectives of the strategies
- bio-based sectors covered
- biomass resources addressed
- economic resources mobilised
- bioeconomy enabling measures and instruments designed/planned

Mapping of bioeconomy strategies

- Report 2017 (SWECO, Spatial Foresight GmbH)
- Joint survey 2018 (KCB, BBI JU, IEA)
- Joint survey 2019 (KCB, IEA Task 42, BBI JU)



Bioeconomy development in EU regions

Mapping of EU Member States' / regions' Research and Innovation plans & Strategies for Smart Specialisation (RIS3) on Bioeconomy

Final Report – February 2017
Framework Contract: 2014.CE.16.BAT Lot 2
Specific Contract: RTD/F1/PP-03681-2015

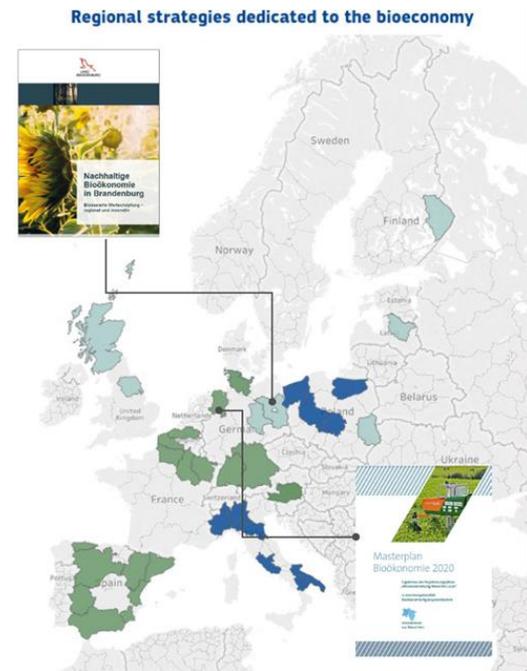
Written by Silke Haarich



28 February 2017

Joint survey on bioeconomy policy developments in different countries

Background, methods used and recommendations for future editions
Report of JRC, BBI JU and IEA Bioenergy



European Commission

Next steps

- Bioeconomy Progress Report (Q1 2022)
 - Reporting on the progress of the implementation of the 2018 EU Bioeconomy Strategy, as well as the general progress of the bioeconomy in Europe
 - E.g., progress of Action 2.3 (“support the development of national/regional bioeconomy strategies, including remote areas and candidate and accession countries”)
 - Framing the bioeconomy within the new policy context, e.g. the European Green Deal
- Major Bioeconomy Conference in Brussels on 8th and 9th June 2021
 - High-level participation of bioeconomy policy makers and stakeholders
 - Objectives: present the findings of the Progress Report; and outline and discuss the pathways for sustainable bioeconomy towards 2050

Thank you

The EU's Bioeconomy Policy:

<https://ec.europa.eu/research/bioeconomy/>

Bioeconomy country dashboard:

https://knowledge4policy.ec.europa.eu/visualisation/bioeconomy-different-countries_en#survey

Deploying the bioeconomy in the EU

A framework approach for bioeconomy strategy development: 10 policy recommendations for building national bioeconomies toward a fair and just climate neutral Europe:

<https://op.europa.eu/en/publication-detail/-/publication/2cf89630-e2bc-11eb-895a-01aa75ed71a1/>



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