

***G7 Climate, Energy and Environment WORKSHOP: Sustainable and Circular Bioeconomy for reducing emissions and restoring ecosystems: success stories and indicators and best practices for monitoring their sustainability***

**October 31, 2024 (12.00-16.30)**

**Web meeting, Presidency of Council of Ministers, Rome**

**Italian Presidency G7 Climate, Energy and Environment and the National Bioeconomy Coordination Board (CNBBSV), Italian Presidency of Council of Ministers, and OECD**

**Round table on monitoring tools and indicators: good practices at national and territorial level**

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*Set your goals -  
The goals determine metrics and indicators*



- What is the state of implementation of the bioeconomy strategy?
- What are the sustainability effects of bio-based value chains?
- How does the bioeconomy compare to the economy as a whole?
- How big are the bioeconomy's footprints?

*Be clear what you are talking about*

## Biobased services

logistics

transport

trade

research

tourism

## Processing of biomass

food and feed

material use

bioenergy

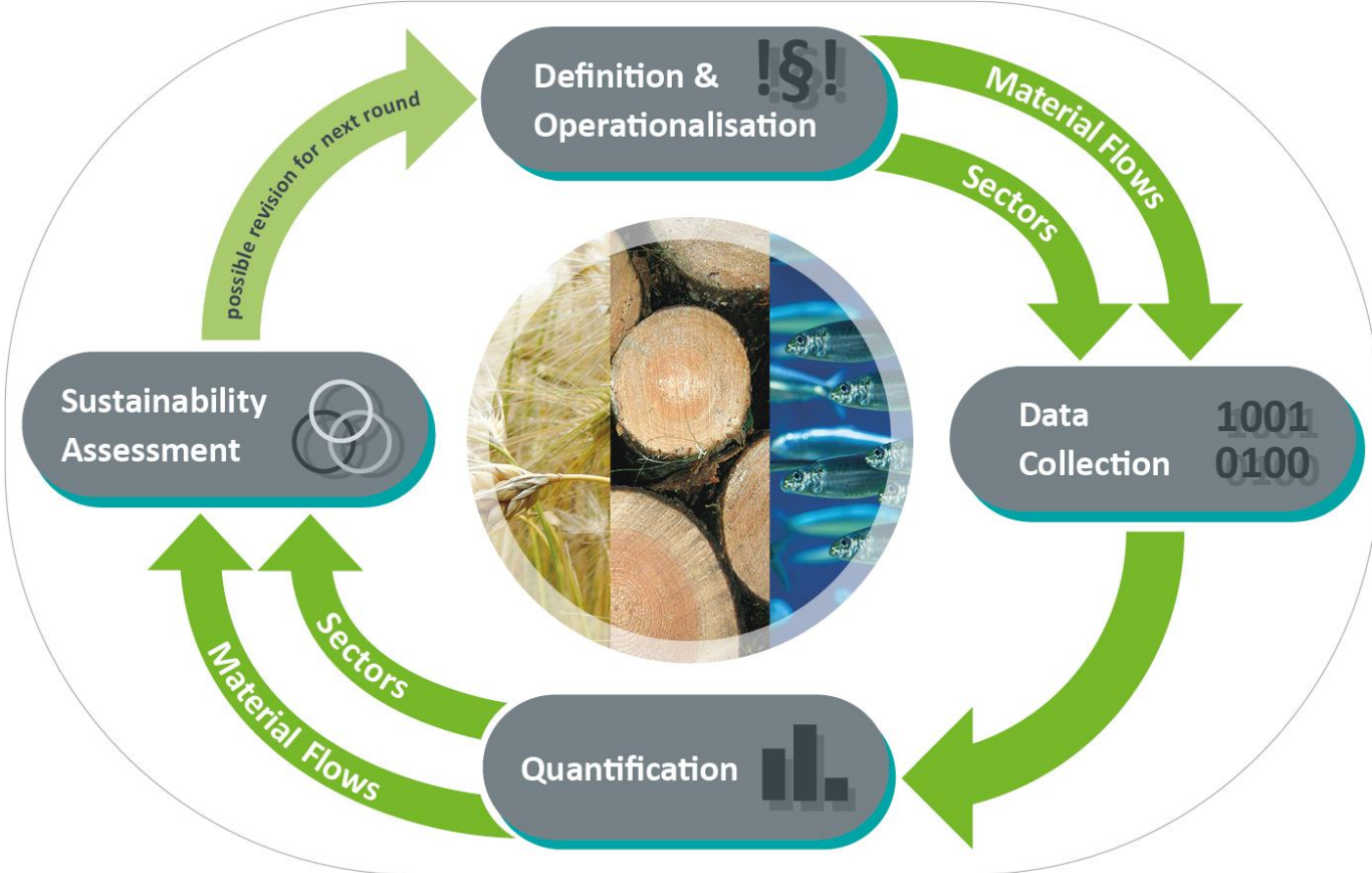
## Production of biomass

agriculture

forestry

fisheries

# Create a monitoring concept



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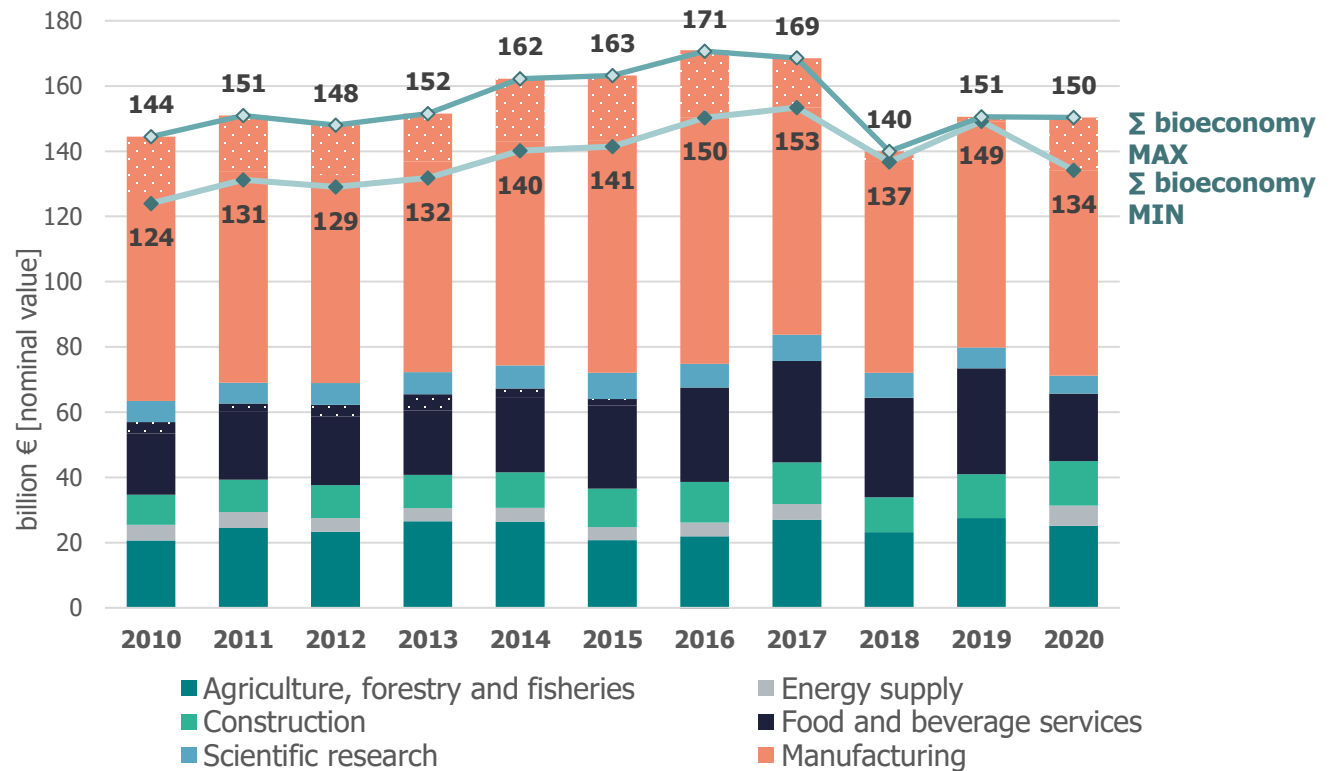
**1.**

**Taking into account the national context, which economic indicators are used in your country or would be most appropriate to monitor the progress of the bioeconomy towards the objectives?**

**What indicators would be most effective to describe the sustainability of the implementation of bioeconomy in your country?**

# Economic Indicator: Gross value added of the German bioeconomy

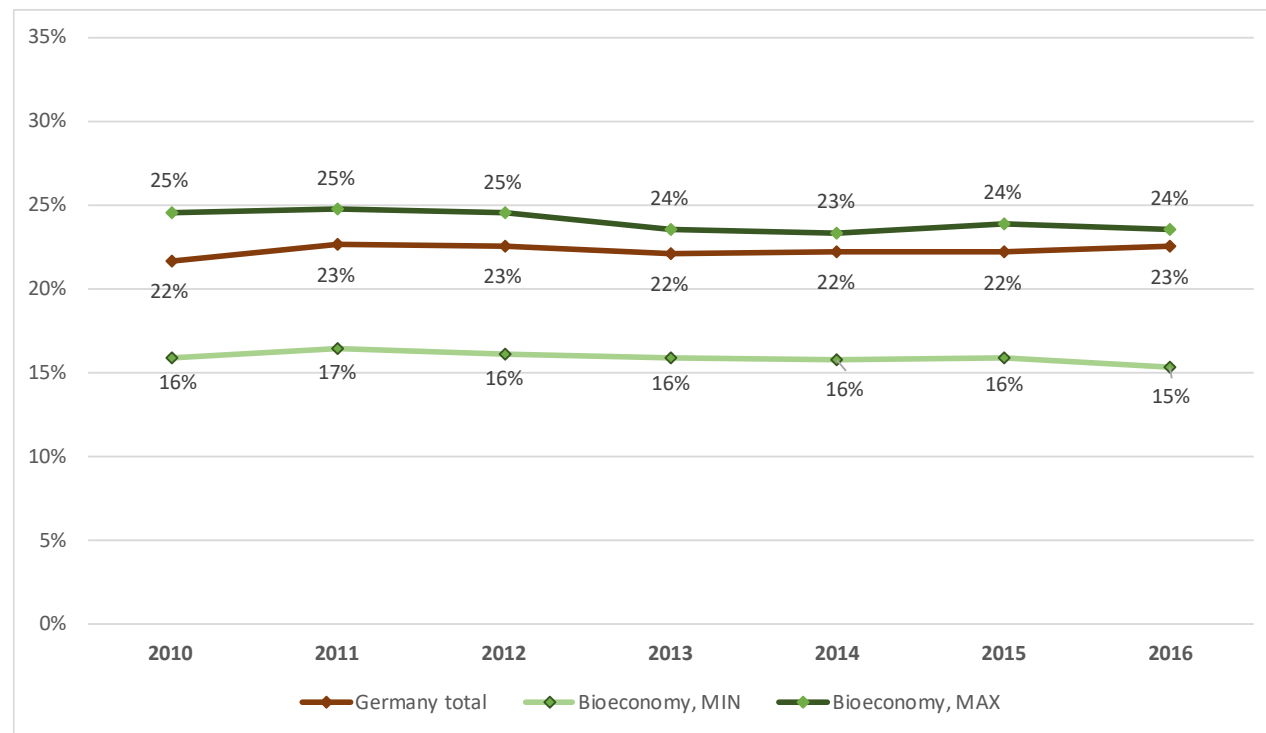
## Indicators of the German Sustainability Strategy



Source: own calculations, Eurostat, Destatis

# Economic Indicator: Ratio of Gross Fixed Capital Formation to GVA

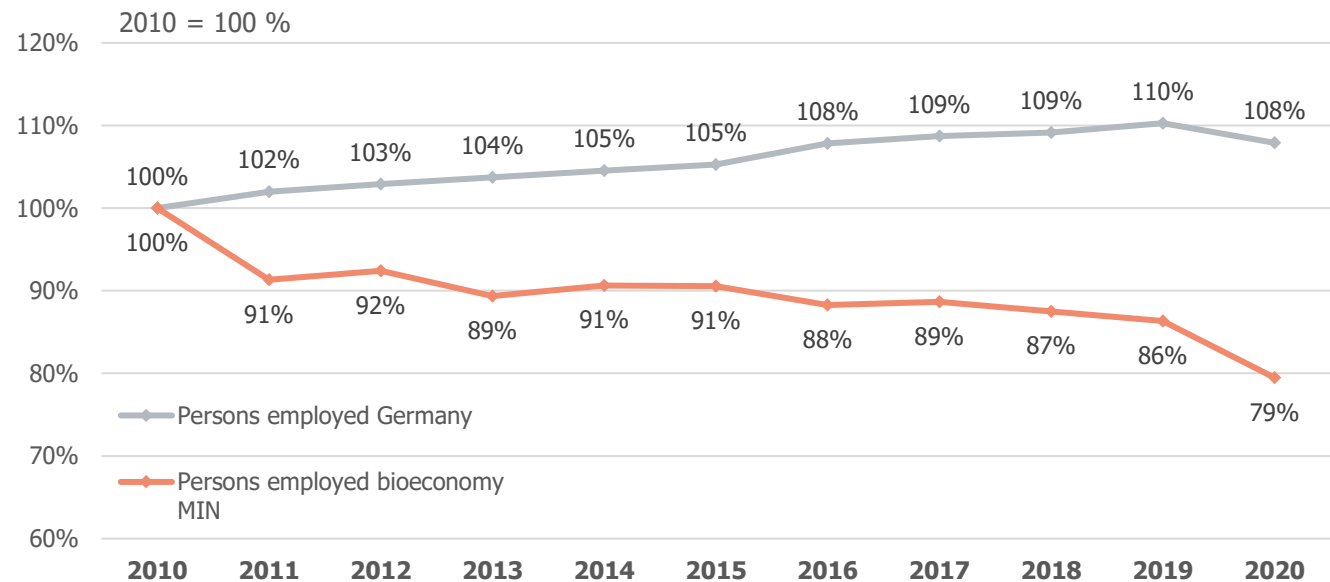
## Indicators of the German Sustainability Strategy



Source: own calculations, Eurostat, Destatis

# Economic Indicator: Development of employment in the German bioeconomy

## Indicators of the German Sustainability Strategy



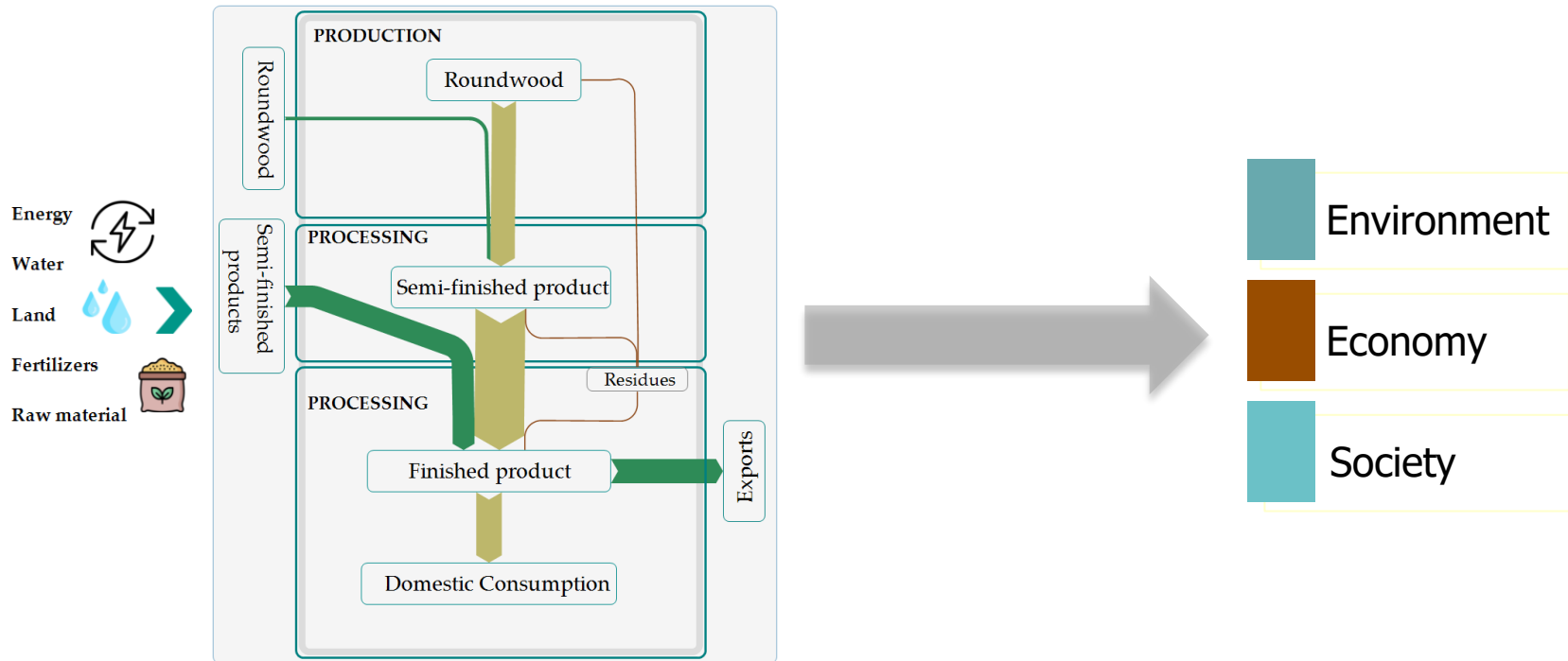
Source: own calculations, Eurostat, Destatis



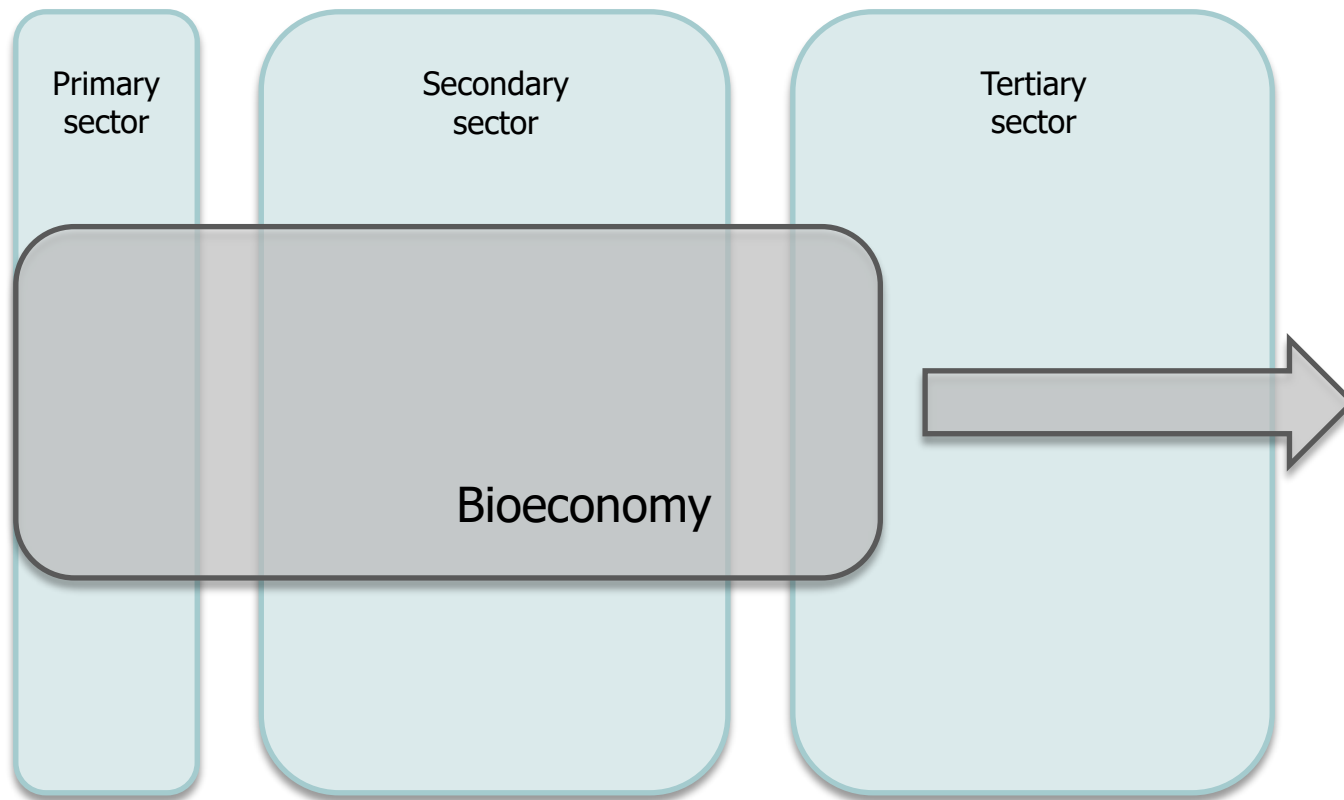
## *Indicator selection (from a scientific point of view)*

Indicator selection should reflect the monitoring objectives, cover socially relevant sustainability effects, and be based on a participatory process.

# Material flow based assessment of sustainability effects: Sustainability effects of bio-based core products



# Sectoral Assessment of sustainability effects: Contribution of the bioeconomy to German sustainability targets

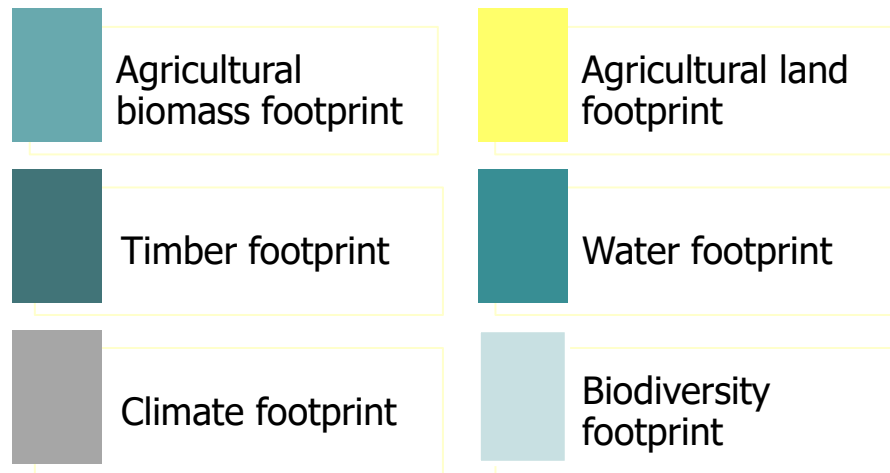


## 27 indicators of the German Sustainability Strategy



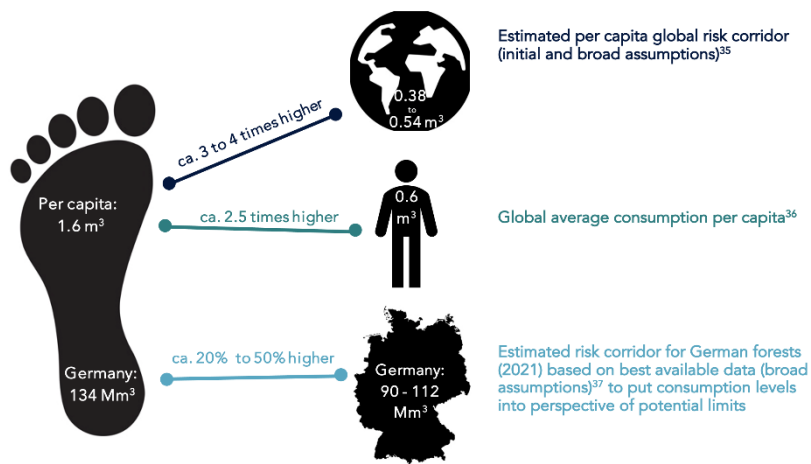
# *Footprint indicators:*

## *Germany's contribution compared to global averages*



# Footprint Indicators: Timber and agricultural biomass footprints

## Timber footprint for 2021



## Agricultural biomass footprint for 2015



2015  
Sources: SYMOBIO 1.0 and IRP.

Source: based on Beck-O'Brien et al. (2022)

**2.**

**Which national institutions or organizations have the mandate to select indicators and monitoring methods?**

**What national, regional or international statistics and databases are used to assess the progress and sustainability of your national bioeconomy?**

## *Selection of indicators and monitoring methods*

- For a national bioeconomy monitoring, the Federal Government has the mandate for the selection of indicators and monitoring methods.
- From a scientific point of view, the selected method should be suitable for monitoring the development of the goals set and the selection of indicators should be based on a participatory approach.

## Economic

- National Accounts
- Environmental Accounts
- Structural Business Statistics
- Production Statistics
- Value Added Tax Statistics
- ...

## Environmental

- Environmental Accounts
- National Survey on Energy Use in Manufacturing
- National Energy Balances
- National Inventory Report of the GHG Inventory
- Renewable Energy Statistics
- Central Emissions System Database
- FAOSTAT
- GLORIA
- IUCN Red List
- ...

## Social

- Labor Force Survey
- Employment Accounts
- Structure of Earnings Survey
- Earnings Survey
- Employment Statistics
- Structural Business Statistics
- ...



**3.**

**What kind of cooperation and international dialogue initiatives could foster the tailoring of robust and transparent criteria and methodologies for monitoring and evaluating the sustainability of bioeconomy policy and implementation?**

**How could multilateral institutions support these processes while providing a neutral platform where all countries and stakeholders have a central role in shaping the future bioeconomy?**

## *Cooperation and international dialogue*

- Non-governmental initiatives: R&D cooperation, IACB, WBF, ISBWG
- International initiatives: IBF?, G20
- International Organisations could be a platform (forum, roundtable) for international monitoring activities and act as an information hub

# References

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