

# Developing a concept for bioeconomy monitoring

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Osijek  
27.03.2018

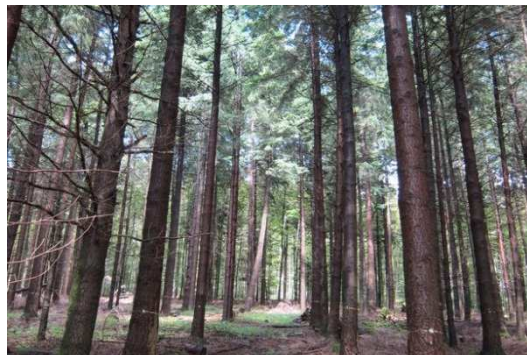
# Monitoring bioeconomy

## The task

**Agriculture**



**Forestry/Forest Industries**



**Fishery/Aquaculture**



**Material and energy uses**



**Fodder**



**Food**



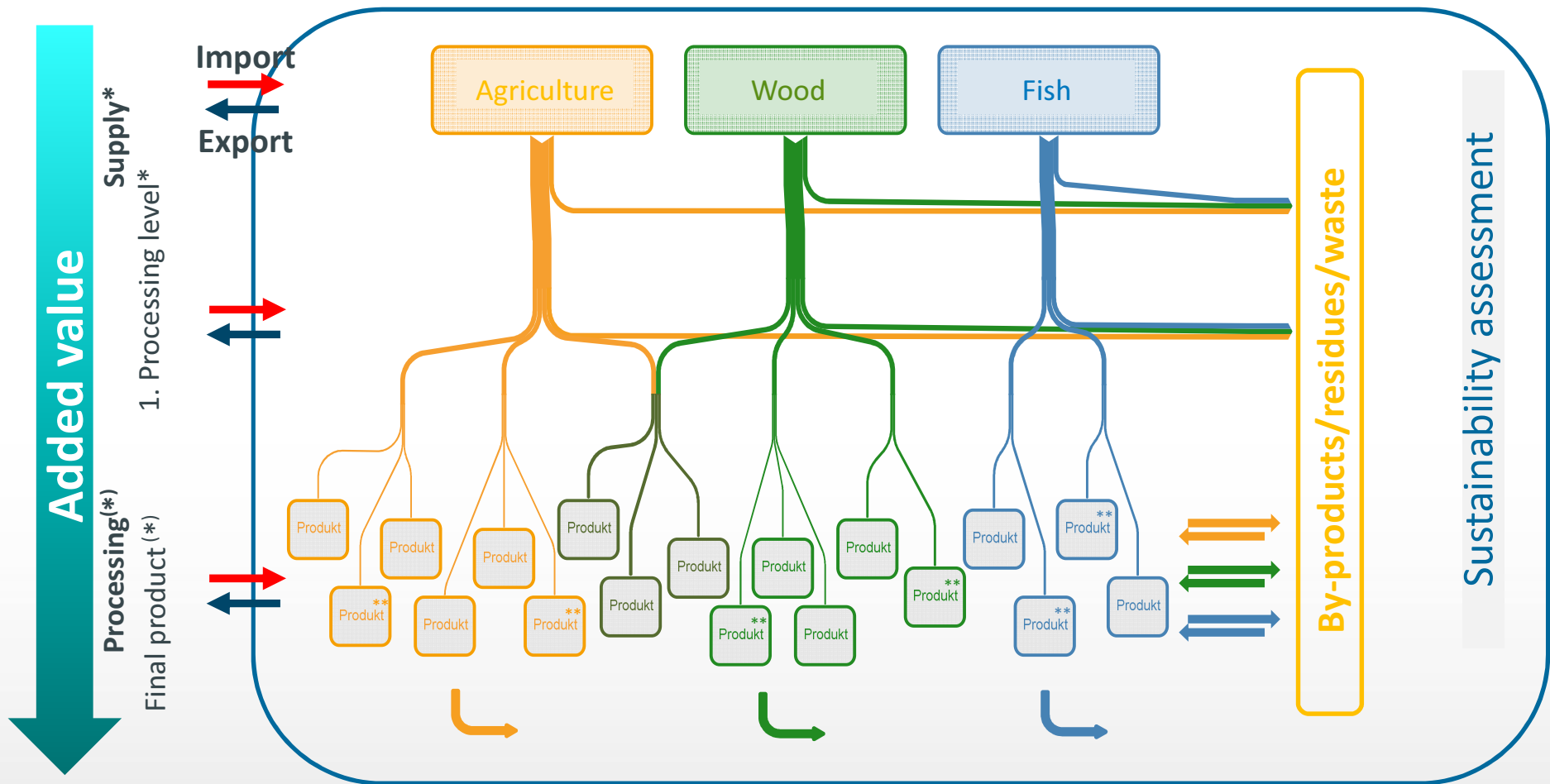
**Residues/Waste**

# Monitoring bioeconomy

## Providing data

- Developing a manual for a consistent material flow analysis
- Taking into account future technologies and services
- Developing a concept for material flow based as well as cross-sectoral sustainability assessment

# Monitoring bio-economy Overview



\* Classification of industrial activities (NACE)

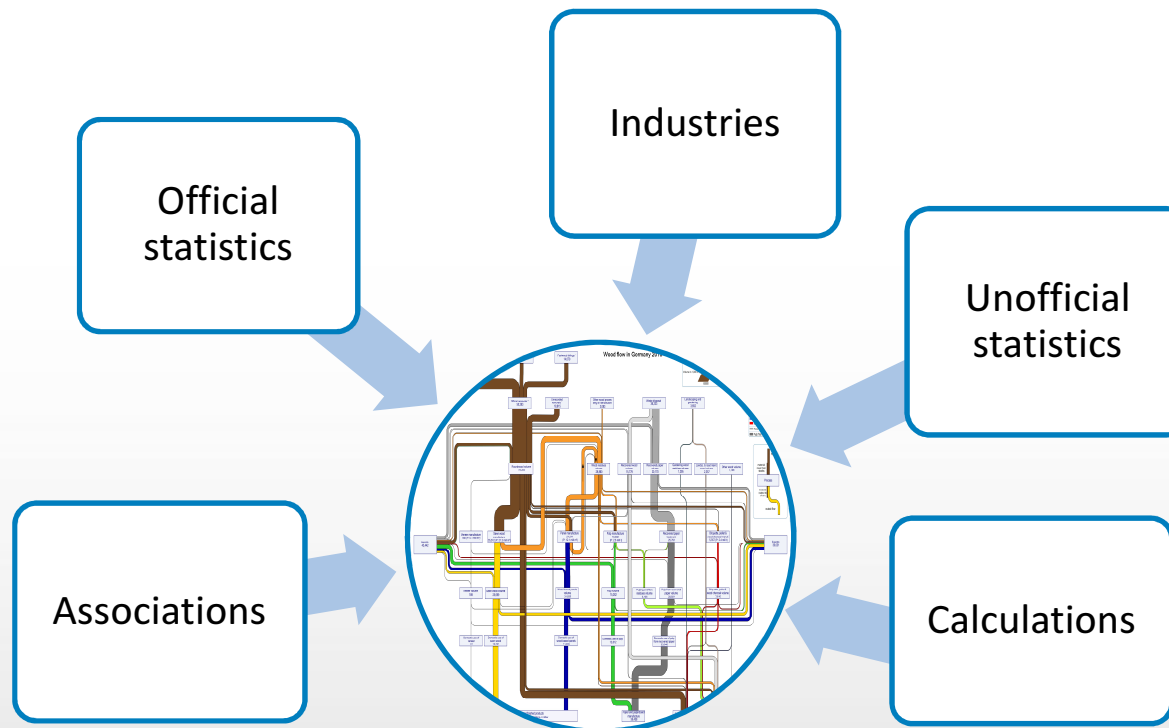
| \*\* Lead products

(Fig. Susanne lost)

# Monitoring bioeconomy

## Wood based material flows

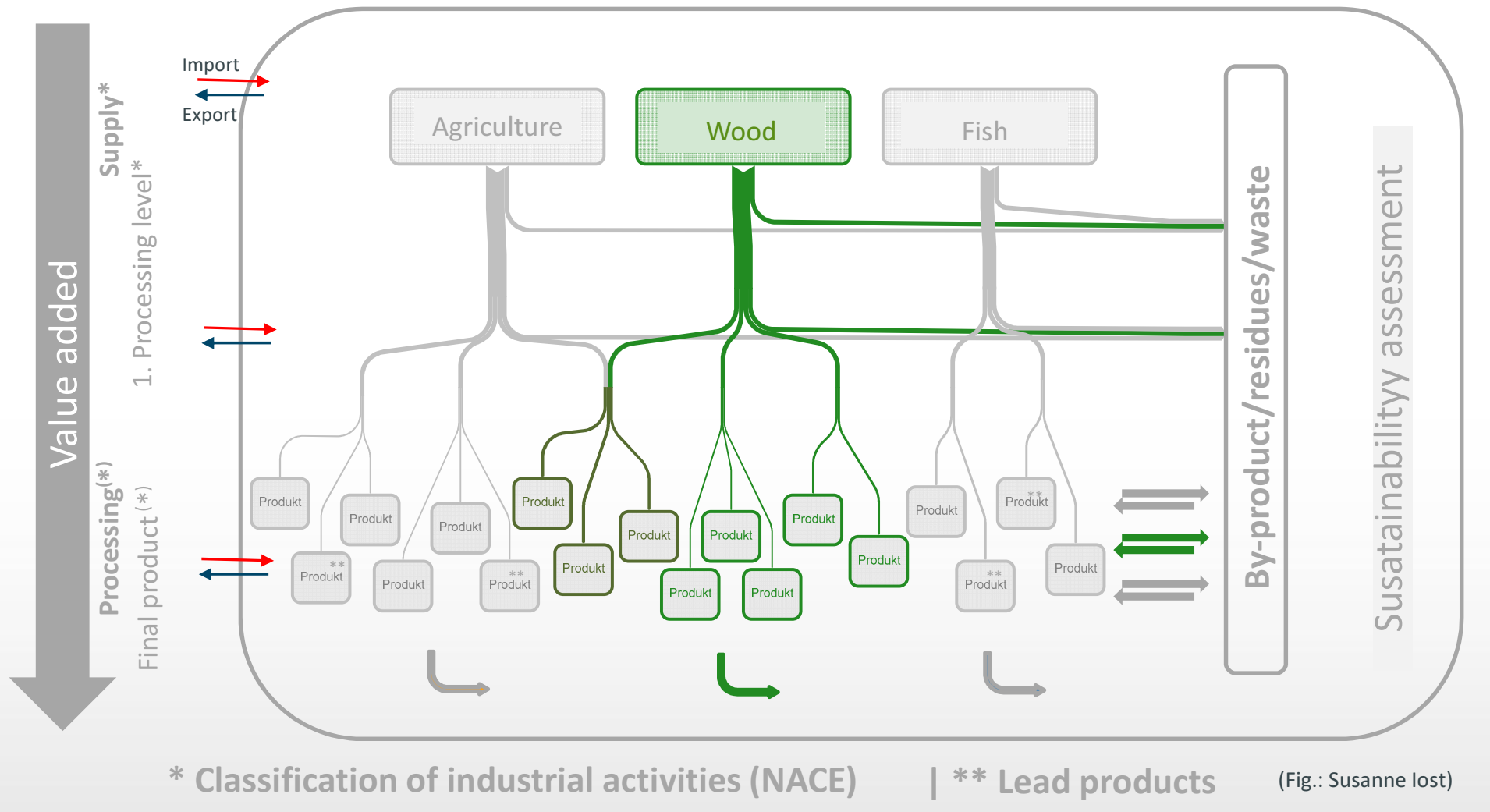
- Identification and consolidation of data sources
- Material flow analysis
- Concept for additional data acquisition



(Fig. Susanne lost)

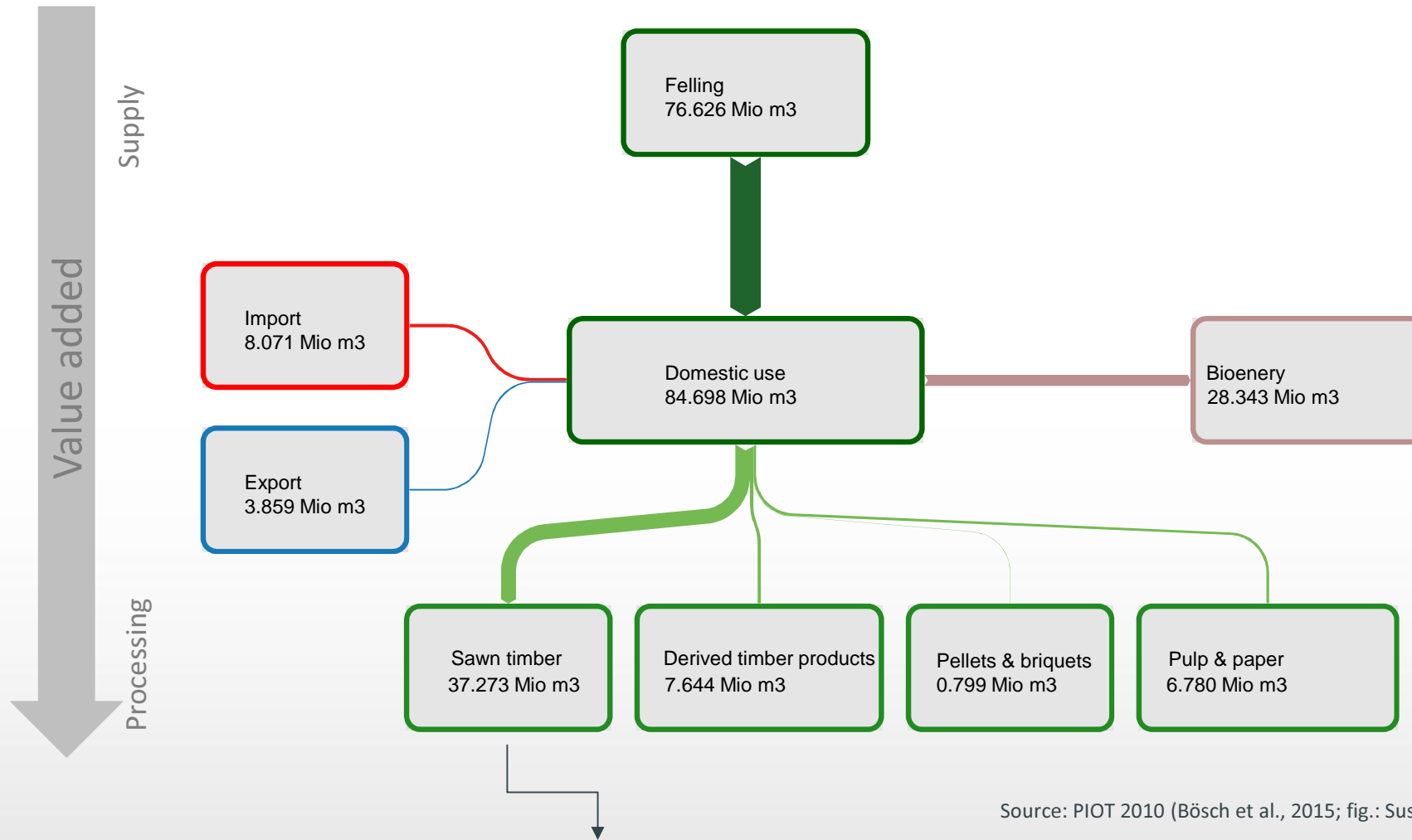
# Monitoring bioeconomy

## Wood based material flow



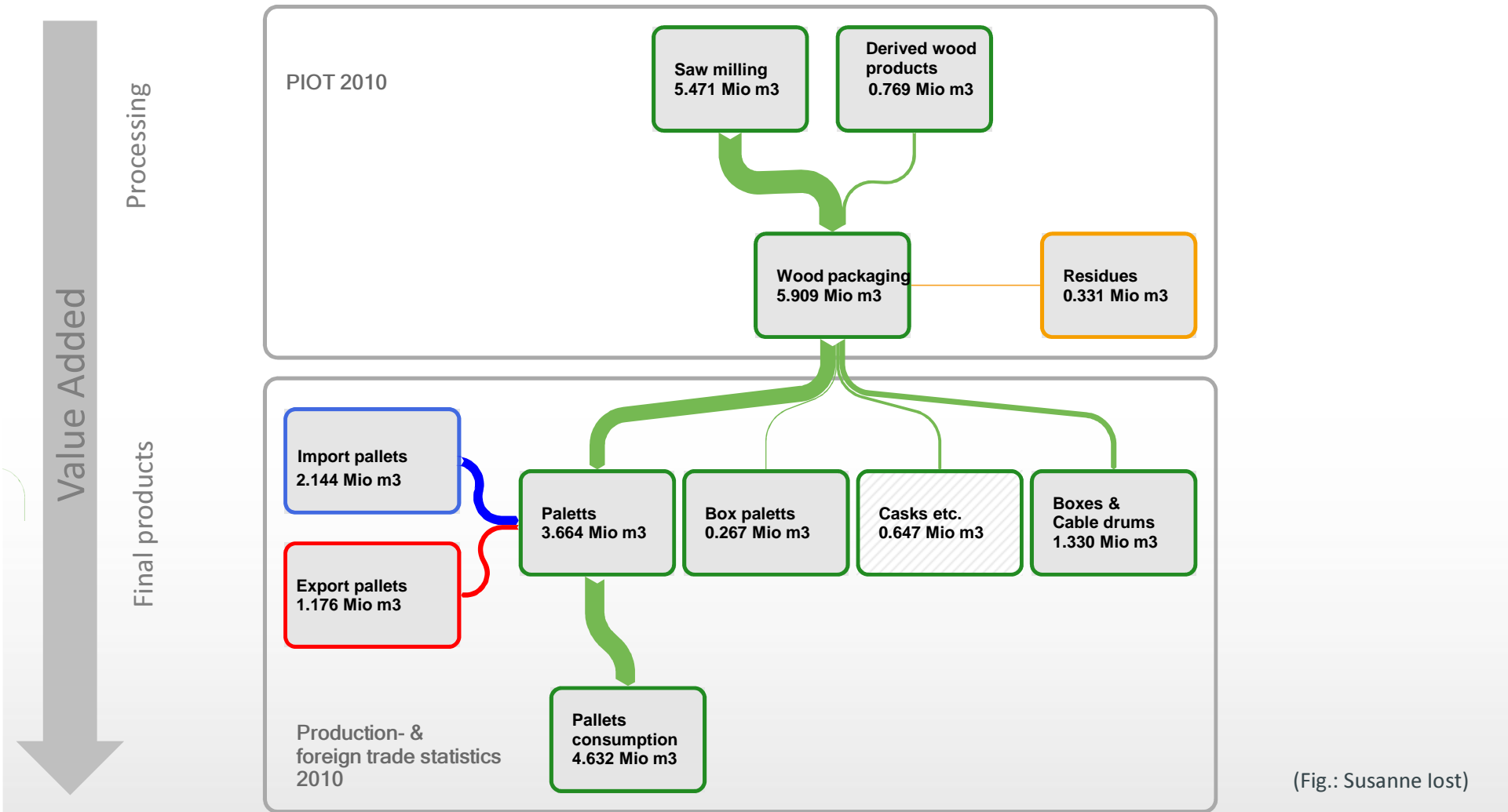
# Wood based material flow

## Raw material supply and 1. processing step



# Wood based material flow

## Lead product euro-palett



(Fig.: Susanne Iost)



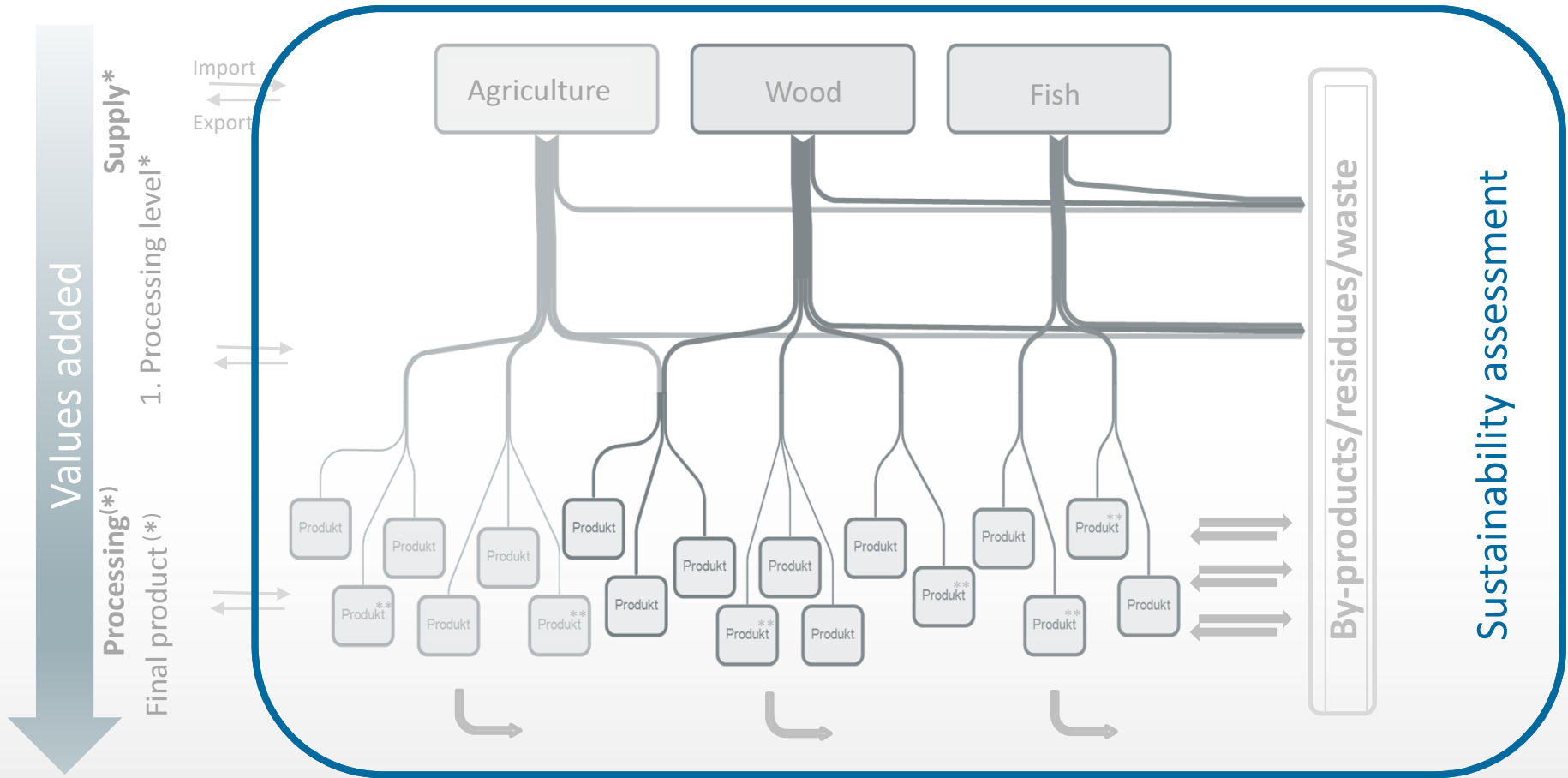
# Sustainability assessment



27.03.2018

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# Nachhaltigkeitsbewertung



\* Classification of industrial activities (NACE)

\*\* Lead products

(Fig.: Susanne Iost)

# Sustainability assessment

## Challenges & goals

**Challenges** → developing a concept for material flow based as well as cross-sectoral sustainability assessment of the bioeconomy

### **Challenge 1:**

Material flow based sustainability assessment

#### Goal of the assessment:

Assessment of completely covered bio-based material flows from 'cradle to grave'

### **Challenge 2:**

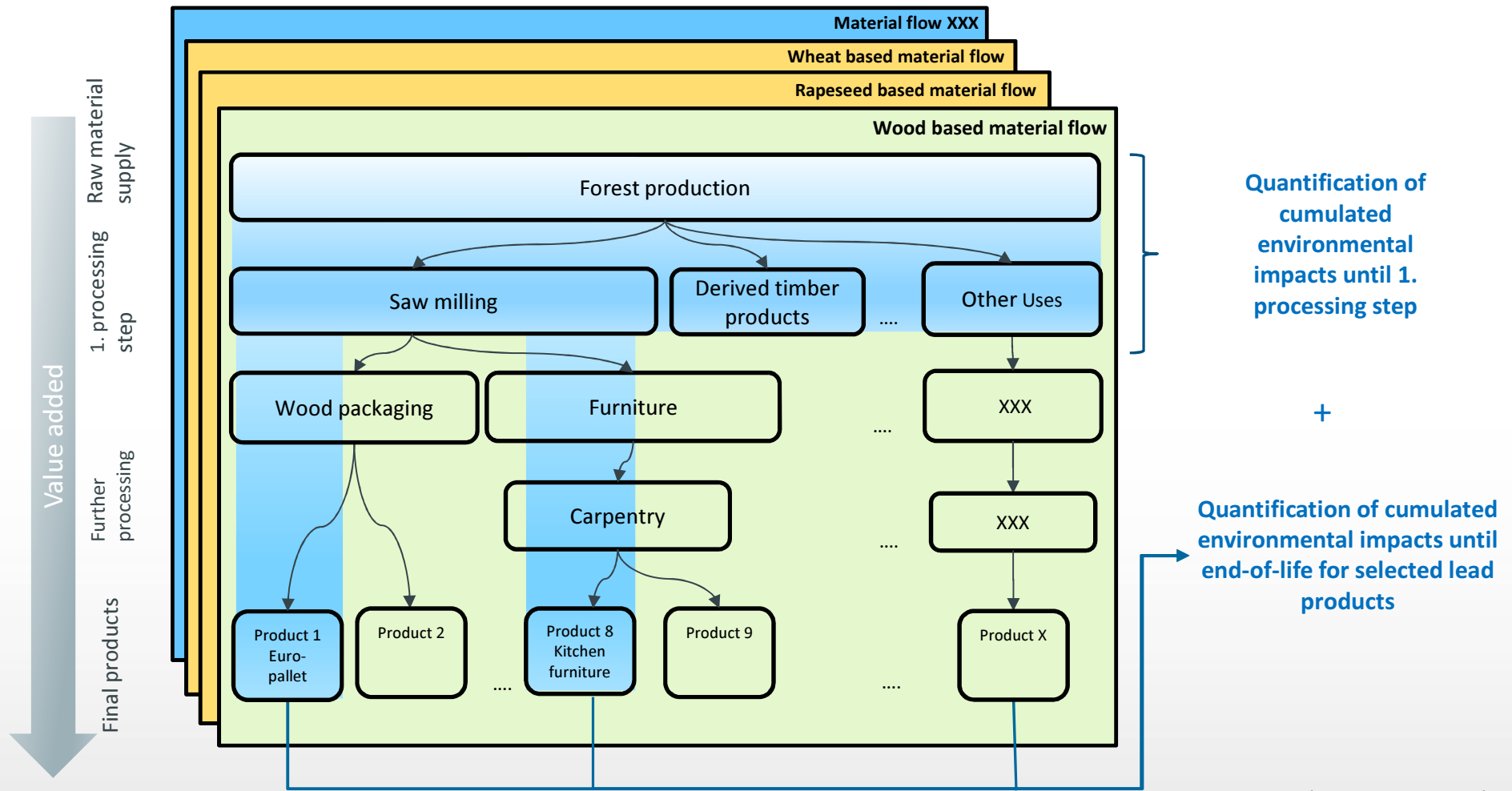
Cross-sectoral sustainability assessment

#### Goal of the assessment:

Comparison between bioeconomy, national economy other branches based on indicators of the German sustainability strategy.

# Concept for material flow based sustainability assessment

## Environmental dimension



(Fig.: Natalia Geng)

# Concept for material flow based sustainability assessment

## Environmental dimension

- Share of bio-based material flows compared to the total national emissions
- Comparisons between material flows
- Comparisons between bio-based products with fossil or other bio-based reference products
- Estimation of cumulated impacts of lead products representing major volumes of material flows
- Shaping of policy instruments

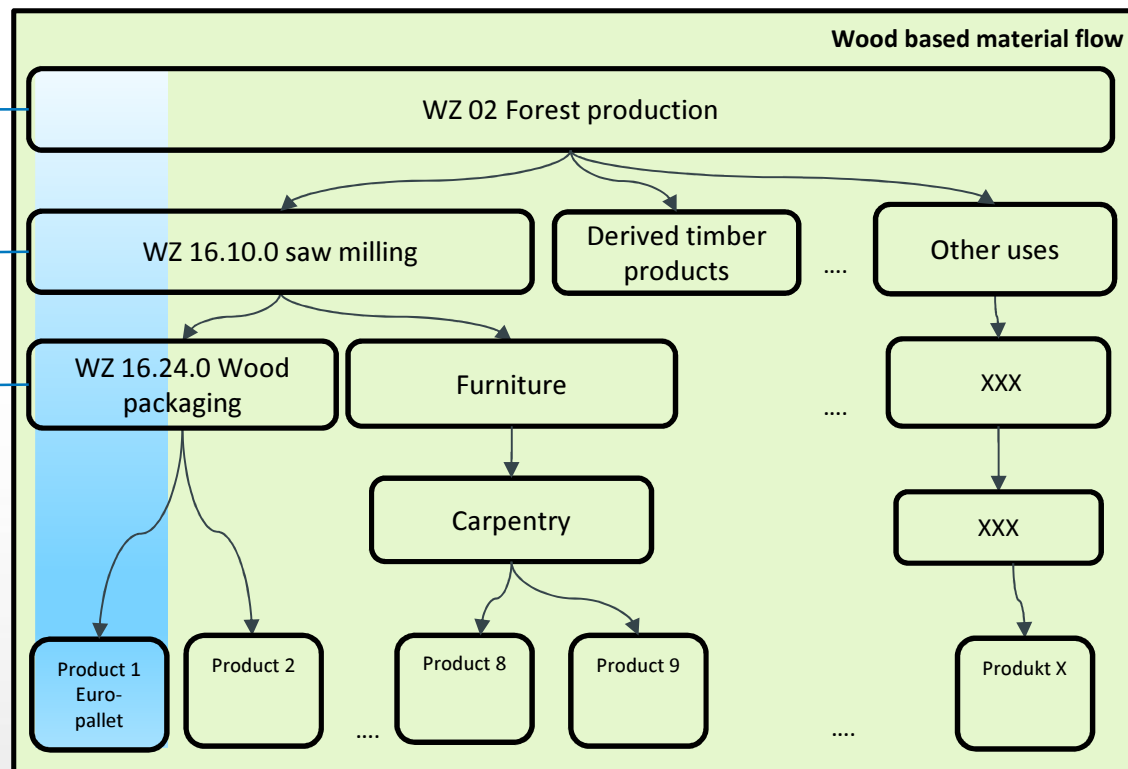
# Concept for material flow based sustainability assessment

## Economic and social dimension

Example: euro-pallet

Employed*, Tsd.	Value added*, Mio. €
1,6	80
2,2	97
6,5	273
<b>Σ 10,3</b>	<b>Σ 450</b>

\* Year 2010

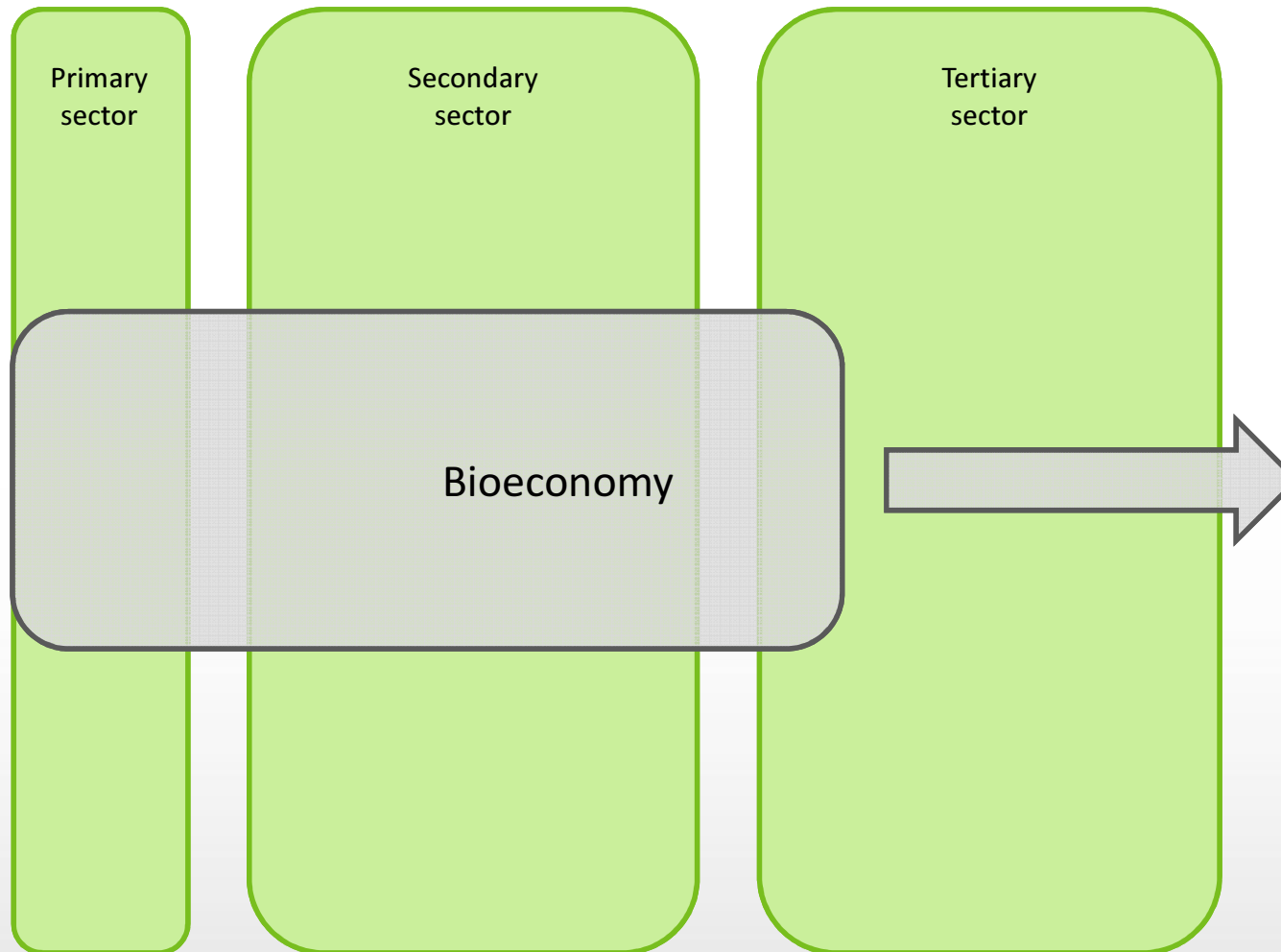


(Fig.: Natalia Geng)

Source: employment statistics (Eurostat), cost structure statistics (StBA), national accounts, own calculations

# Sustainability assessment

## Cross-sectoral assessment



Indicators of German sustainability strategy



# Sustainability assessment

## Cross-sectoral assessment

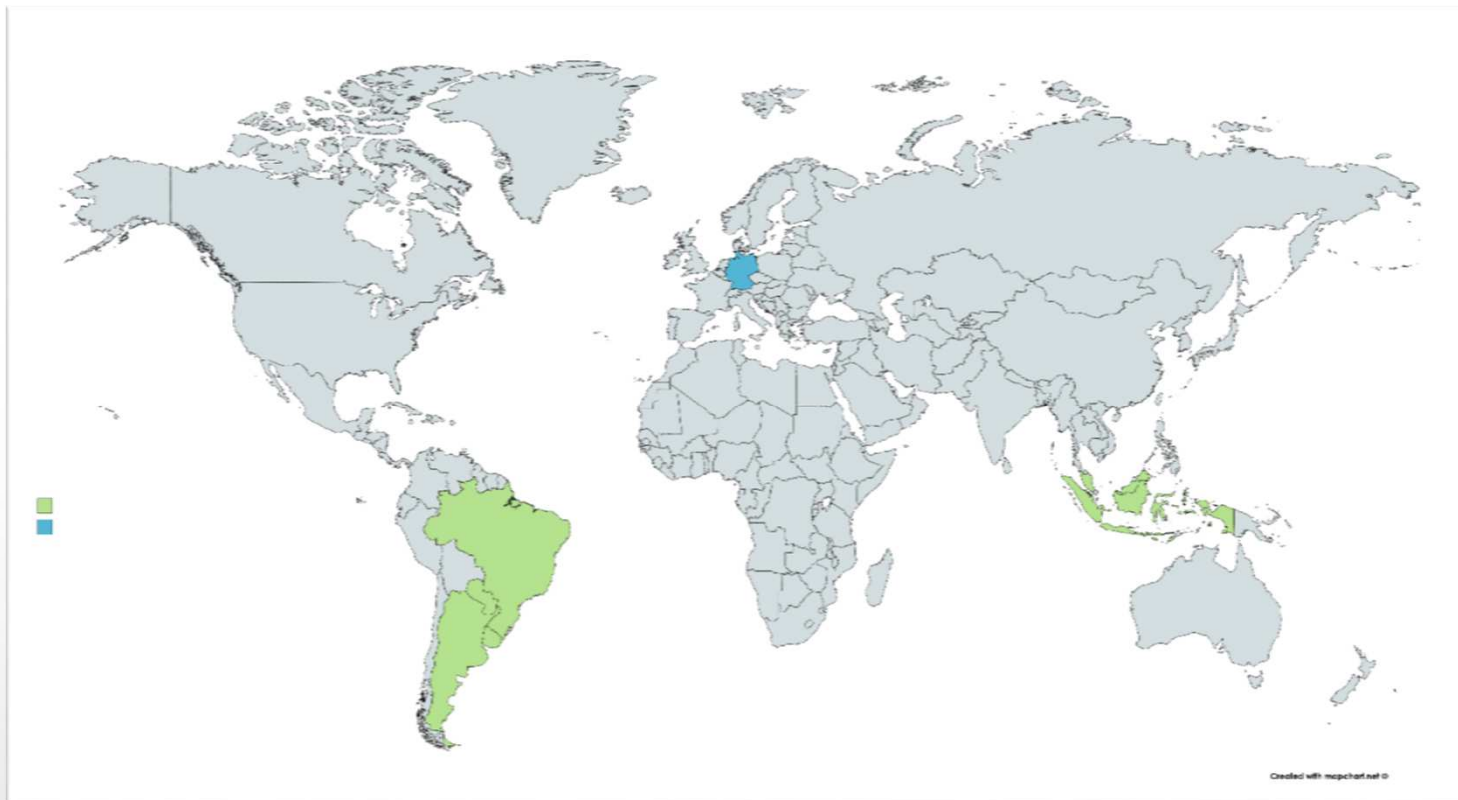
- The concept will show bioeconomy's contribution to the targets of German sustainability strategy
- Delimitation of bioeconomy is based on a combination of official statistics as well as additional sources
- The concept enables comparisons of bioeconomy with other commercial sectors



# Sustainability assessment

## Impacts in the country of origin

Sustainability impacts of selected import-commodities in the country of origin



# Thank You!

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