

# Project *brief*

Thünen Institute of Forestry

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## Monitoring the bioeconomy of Uruguay: bio-based sectors and related sustainability effects

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- **At the example of Uruguay, we could proof that the approach for a sectoral bioeconomy monitoring developed by Thünen Institute for Germany is applicable to other countries**
- **Trade-offs between sustainability effects were observed: an increase in value added is still coupled with an increase of GHG emissions**
- **Data availability remains a crucial challenge to ensure a long-term bioeconomy monitoring**

### Background

For monitoring the bioeconomy, the use of biobased resources and the associated sustainability effects must be identified and quantified in all sectors of the economy. We present a methodological framework originally developed for Germany for this purpose.

### Methodology

The monitoring framework is structured in two interconnected sections: 1) monitoring of material flows (see Paola Pozo et al DOI: 10.3220/PB1673535512000) and 2) monitoring at sectoral level. Both sections comprise the bioeconomy monitoring framework developed for Uruguay. The sectoral monitoring identifies bio-based economic activities within primary, manufacturing and service sectors. It then quantifies the use and processing of bio-based resources thus determining the bio-based shares of these economic activities and consequently the size of the bioeconomy. The bio-based shares are then applied to quantify selected economic, social, and environmental bio-based sustainability effects.

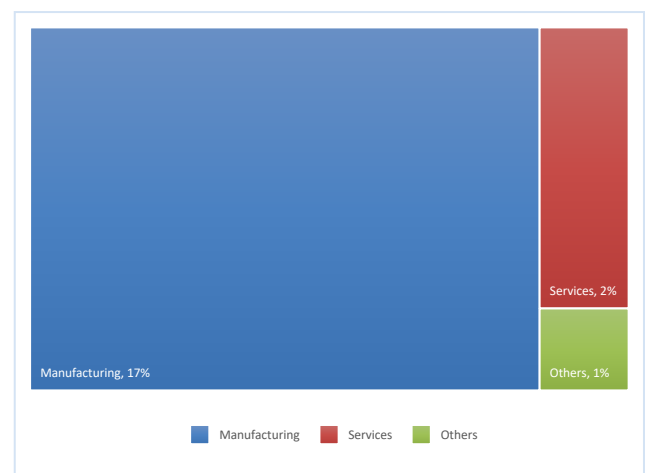
### Results

The highest average input of bio-based resources are in the economic activities in the Manufacturing sector (Processing of meat and Dairy products) and in the Services sector (Accommodation and Food and Beverage Services). The assessment of sustainability effects indicates that between 2012 and 2016 an average of 17% of employment in Uruguay was related to the use of bio-based resources. Gross Value Added related to the use of bio-based resources showed an increasing trend as well as GHG emissions and Bioenergy consumption.

### Discussion

The initial monitoring shows the size of the Uruguayan bioeconomy across economic sectors and its contributions to sustainability effects. However, due to data aggregation and availability the initial monitoring was performed for two years and in monetary values, thus restricting further analysis. Despite the economic growth, trade-offs in terms of production and emissions were observed, especially in the agricultural sector which has the highest share of GHG emissions whereas manufacturing remains a low contributor. Our monitoring approach allows to track progress towards reaching goals set in the national bioeconomy strategy based on the development of bio-based shares and sustainability indicators.

Figure: Use of bio-based inputs in sectors of the Uruguayan economy



Source: Own elaboration based on Central Bank of Uruguay

### Further Information

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#### Support

