



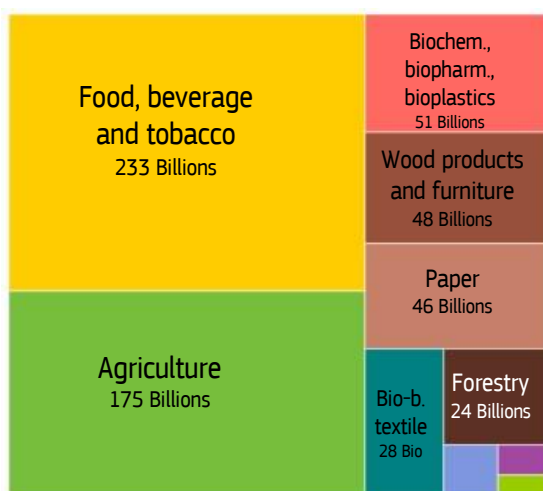
# Estimating jobs and wealth in the Bioeconomy

## Research Brief

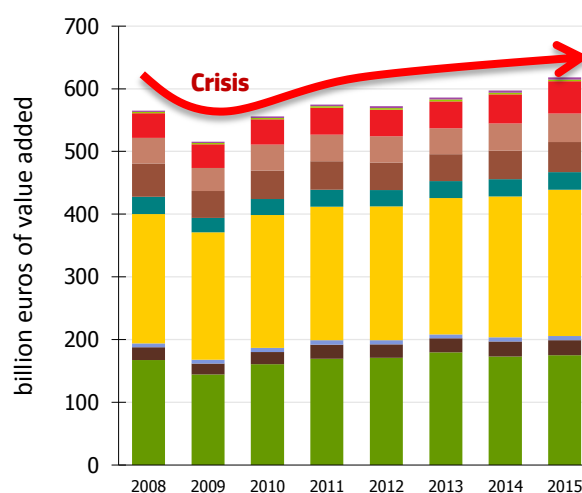
### HIGHLIGHTS

- The bioeconomy generates 4.2% of the EU GDP and employs 8.2% of the EU labour force.
- Concomitant growth in value added and reduction in number of persons employed resulted in apparent labour productivity gains over the period 2008 – 2015.
- Each bioeconomy sector follows its own dynamics, which can also differ from one EU Member State to another.
- Looking at dynamics across Member States can help differentiating bioeconomy strategies according to distinct Member State groups for a finer targeting.
- Numbers are partly based on estimates, following nova-Institut's methodology

### In 2015, the bioeconomy creates 615 billion € of value added in the EU



- Two thirds come from the food, beverage and tobacco industry (38%) and agriculture (29%).
- The bioeconomy value added represents 4.2% of the EU's GDP.



The bioeconomy contracted in 2009 in a context of economic downturn but it recovered quickly.

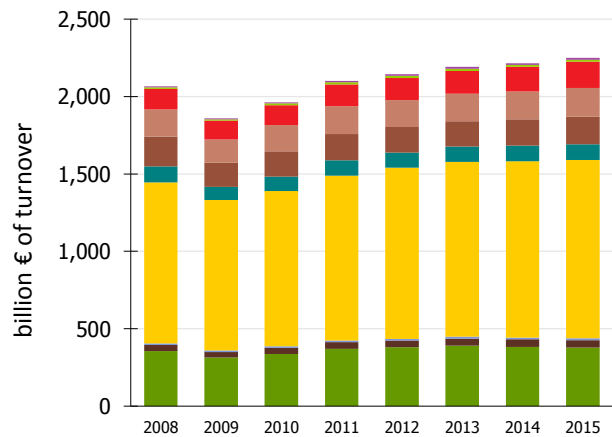
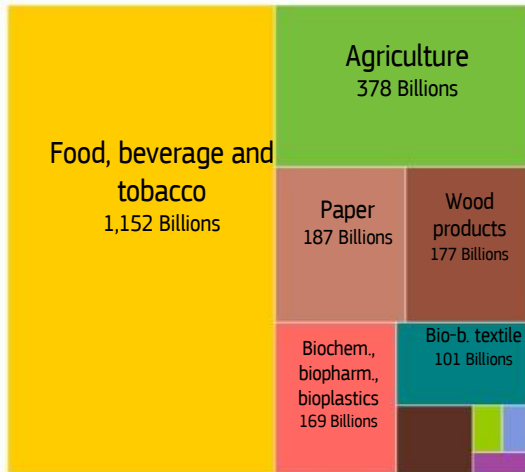
### Since 2010, the bioeconomy growth trend continues steadily.

The value added creation increased by approximately 50 billion euros between 2008 and 2015, half of it coming from the food, beverage and tobacco industry.



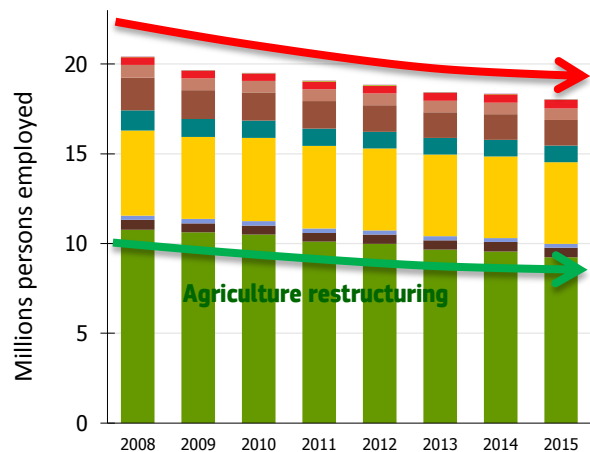
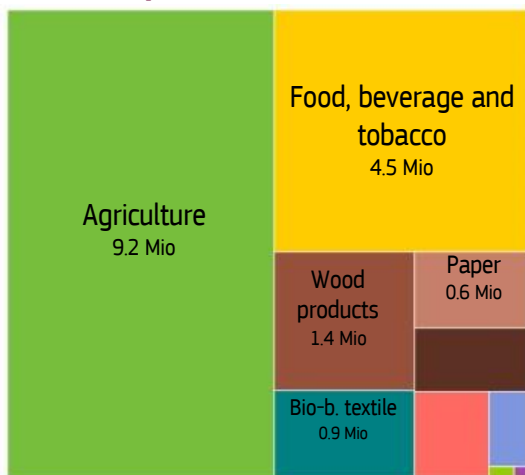
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**In 2015, the bioeconomy creates 2.2 trillion € of turnover in the EU**



- Half comes from the food, beverage and tobacco industry and 17% from agriculture.

**In 2015, the bioeconomy employs 18 million persons in the EU**

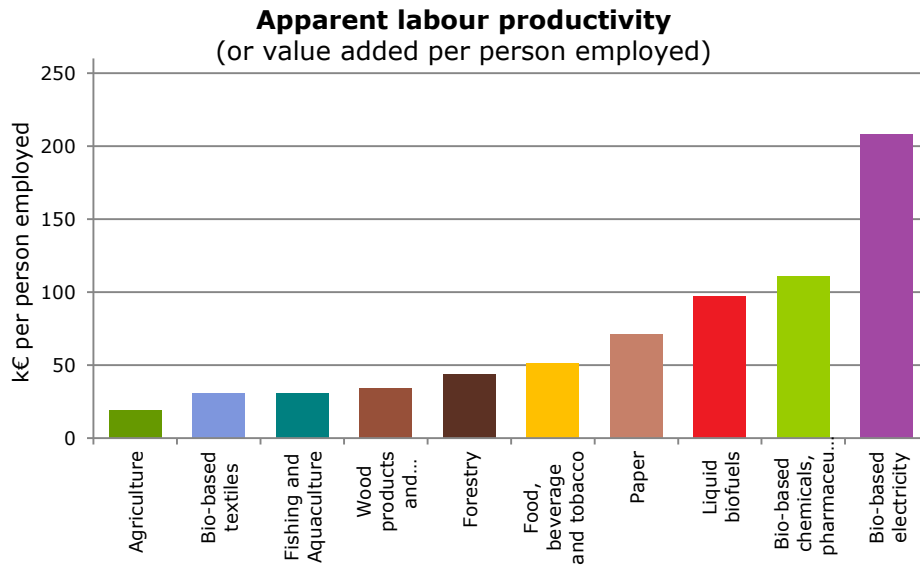


- Three quarters work in agriculture (51%) or the food, beverage and tobacco industry (25%).
- They constitute 8.2% of the total EU labour force.

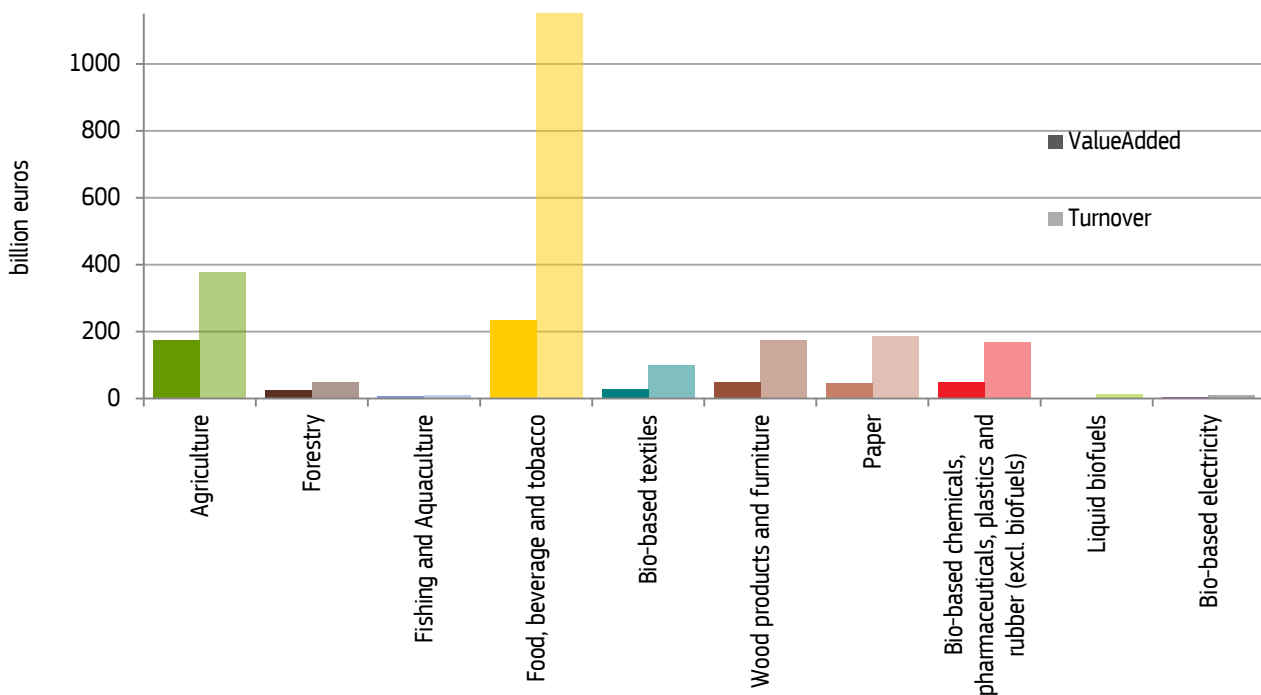
The ongoing restructuring in agriculture is responsible for a reduction in number of persons employed by 1.5 million between 2008 and 2015. It is the main driver of the job dynamic in the EU bioeconomy (- 2.4 million persons employed between 2008 and 2015).

The labour force also declined significantly in other "traditional" sectors like manufacture of wood products and wooden furniture, the manufacture of bio-based textile and the food, beverage and tobacco. It increased in particular in bio-based chemicals, pharmaceuticals, plastics and rubber (excl. biofuels).

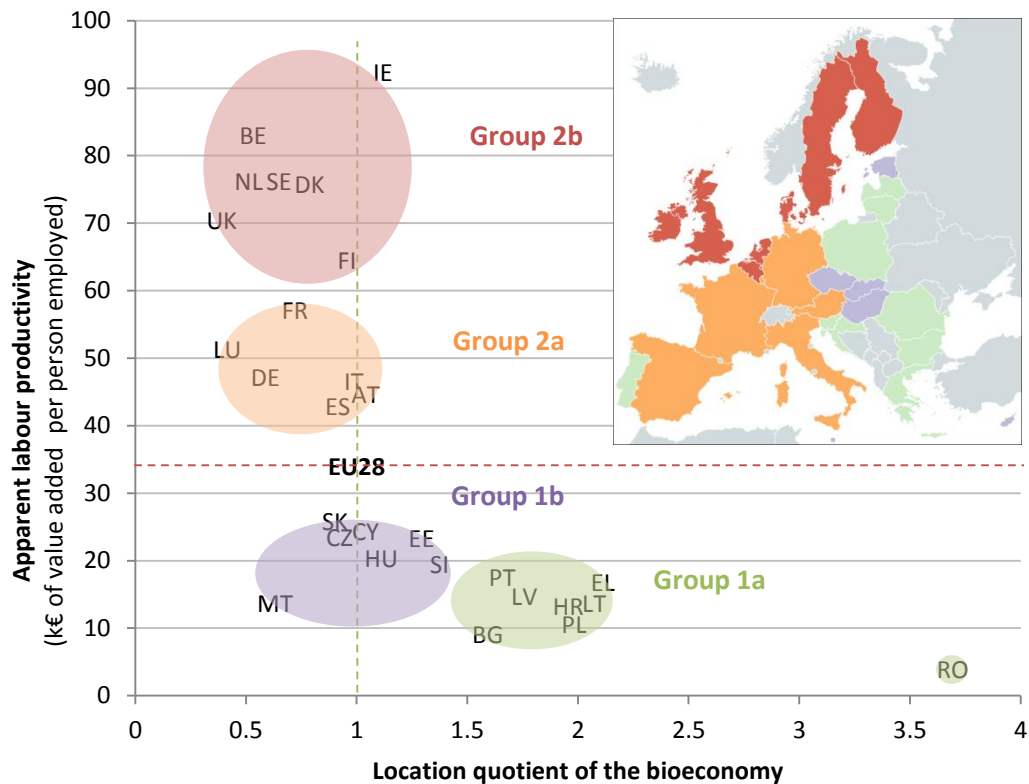
**Labour productivity gains have been reached in almost all bioeconomy sectors over the 2008-2015 period. According to the sector considered the levels are very diverse.**



**The EU bioeconomy is composed of very diverse sectors in their capacity to employ people and generate wealth, but also in the importance of their costs of production below the value added (first bar) and turnover (second bar) per sector**



## Looking at differences and similarities between EU Member States can help thinking targeted bioeconomy strategies



### CURRENT LIMITATIONS

- Status of the data presented in this document: in the absence of official statistics reporting on all sectors of the bioeconomy, the document is partly based on **estimates**.
- Although these estimates give valuable information on the relative weight of each bioeconomy sector as well as on main trends at stake, we do not claim a high precision for absolute numbers.
- Also some particular sectors and countries suffer from missing 2015 data in original data (e.g. forestry, aquaculture, liquid biofuels and bio-based electricity, Malta, Cyprus and Luxembourg). As a result, corresponding estimates suffer from a higher degree of uncertainty.
- The estimations here presented may be subject to correction in the future when more data become available.



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## References and further literature



T. Ronzon, et al. A systematic approach to understanding and quantifying the EU's bioeconomy. *Bio-based and Applied Economics*, [S.l.], v. 6, n. 1, p. 1-17, Jul. 2017. ISSN 2280-6172. Available at: <<http://www.fupress.net/index.php/bae/article/view/20567/19048>>. Date accessed: 25 Sep. 2017. doi:10.13128/BAE-20567.



<http://datam.jrc.ec.europa.eu/datam/mashup/BIOECONOMICS/index.html>  
2015 version of bioeconomics estimates coming soon



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Based on nova-Institut's methodology

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