



XXV IUFRO World Congress

C9d: Societal perceptions, new products, markets, and business models of the circular forest bioeconomy
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Bioeconomy perception by future stakeholders: hearing from European forestry students

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Aim, scope and objectives

To investigate (forest-based) **bioeconomy (FBB)** **perception**
by **future stakeholders** in **Europe**

Forestry
students



Focus (key-words)

1. Familiarity
2. University programs
3. Activities, issues, sectors and actors
4. Drivers, barriers & opportunities
5. Future professional career

Methodology

Your opinion about the forest-based bioeconomy matters

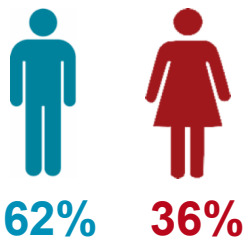


- **Quantitative analysis**
- **Multilanguage online questionnaire** + offline data collection (MSc/PhD theses)
- **6 sections** (ab. 20minutes)
- **Questions:** Open, Close-ended, Multiple-choice, Rating scale
- **Period:** Jan-June 2019
- **Elaborations:** simple/descriptive statistics, comparative analysis

Respondents' profile (1/2)

Gender and University program

Questionnaires: >2,000 → 1,400 → 1,368 valid



NA/Blank: 2%

Average age:
23.8 years



60%



35%

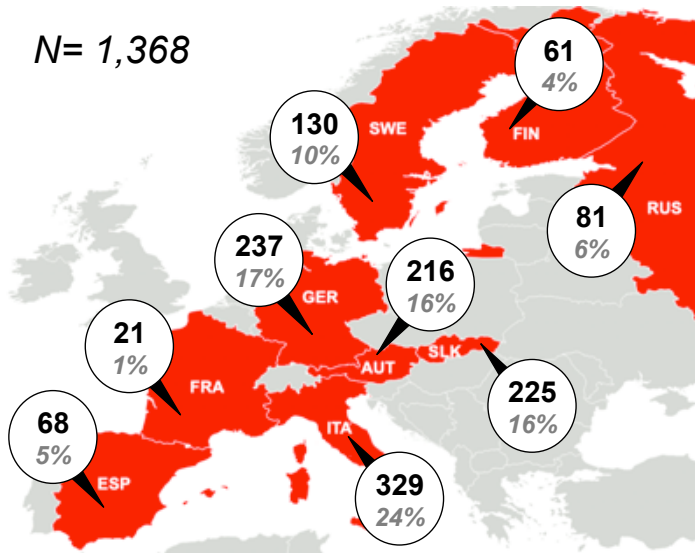


5%

Respondents' profile (2/2)

Geographic distribution and nationality

N= 1,368



29 Universities

49 nationalities

94% → Europe

90% → PerForm countries

Key-results | 1. Familiarity (1/2)

Have you ever heard about bieconomy?



Growing "Yes" rates

South → North

BSc → MSc → PhD

Main sources

University courses: 36%

Scientific papers: 28%

Social media: 24%

News: 22%

Conferences: 21%

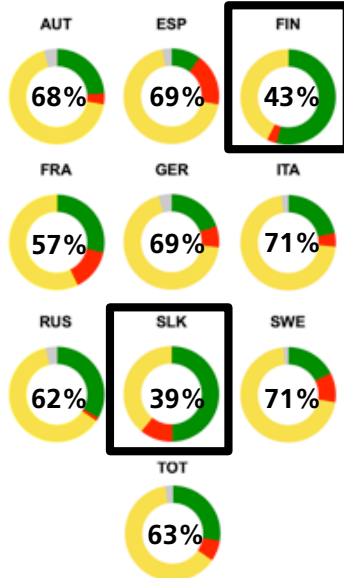
Key-results | 1. Familiarity (2/2)

Are you **aware** of the **existence** of a **specific strategy** for **bioeconomy** at the...

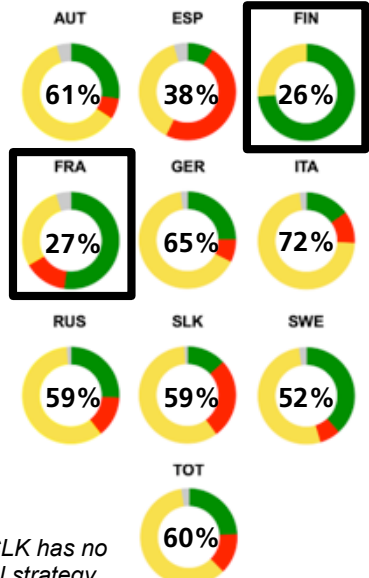
% value within charts = "Don't know"

● Yes ● No
● Don't know ● Blank

...European scale?

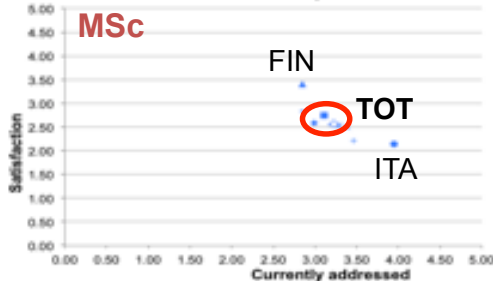
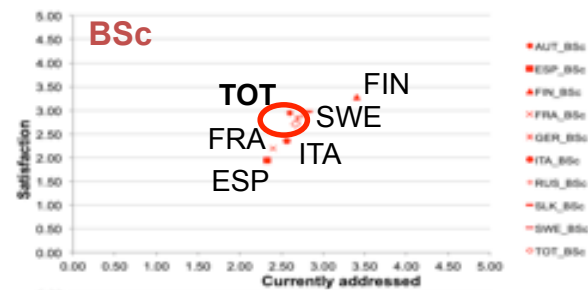
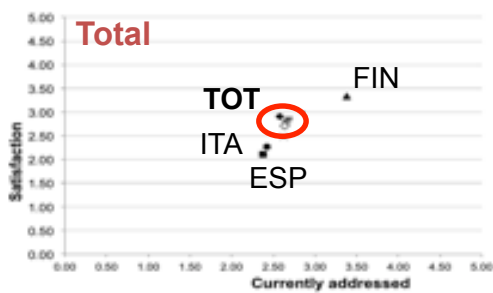


...national scale?



Note: SLK has no national strategy

Key-results | 2. University (1/2)



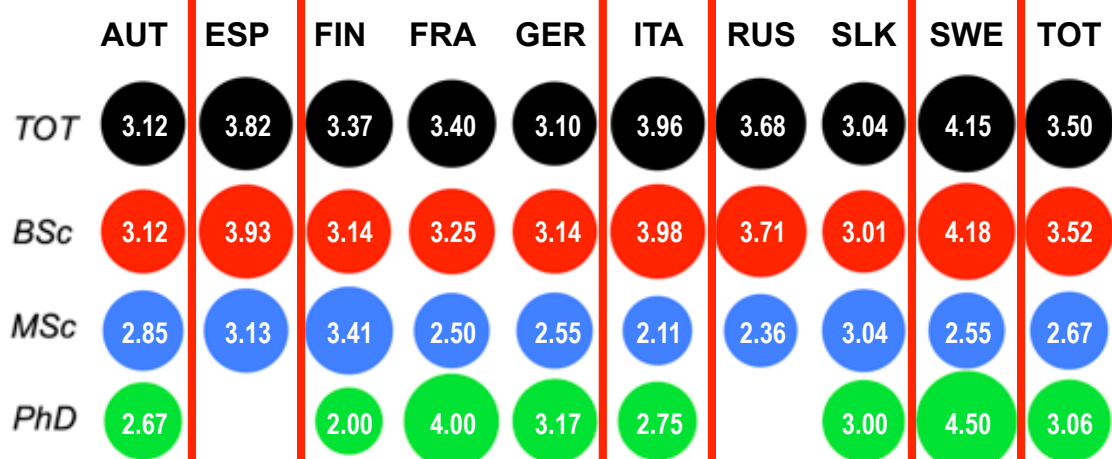
To what extent do you perceive bioeconomy is currently addressed within your University program?

How much are you satisfied with this?

[Likert Scale 1 (=not at all) to 5 (=very much)]

Key-results | 2. University (2/2)

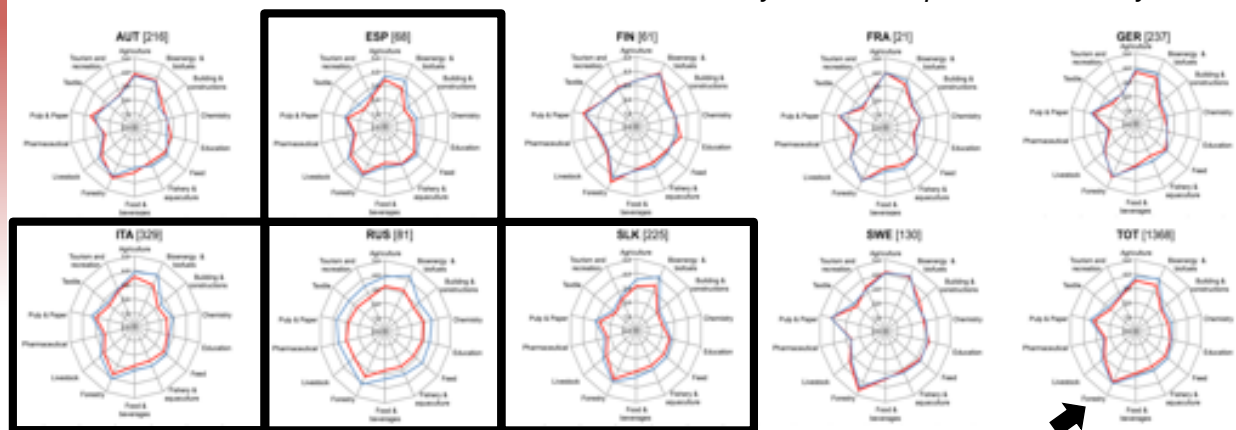
Do you think it is necessary to **address bioeconomy more** in your University program?



[Likert scale: 1= No; 2= Yes, a little bit; 3= Yes, rather more; 4= Yes, more; 5= Yes, very much more]

Key-results | 3. Activities & sectors (1/2)

Extent to which **different sectors** contribute to bioeconomy at the European and country scales



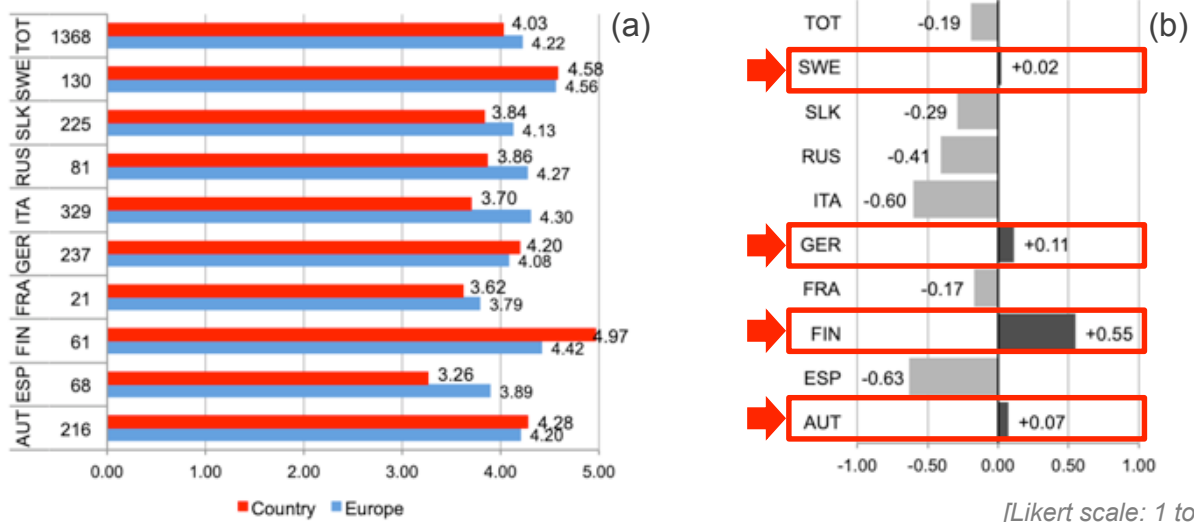
— Country
— Europe

[Likert scale: 1 to 5]

- Forestry perceived as contributing the most at both scales
- Pulp & paper, Bioenergy & biofuels, Agriculture important too
- Differences/gaps among countries

Key-results | 3. Activities & sectors (2/2)

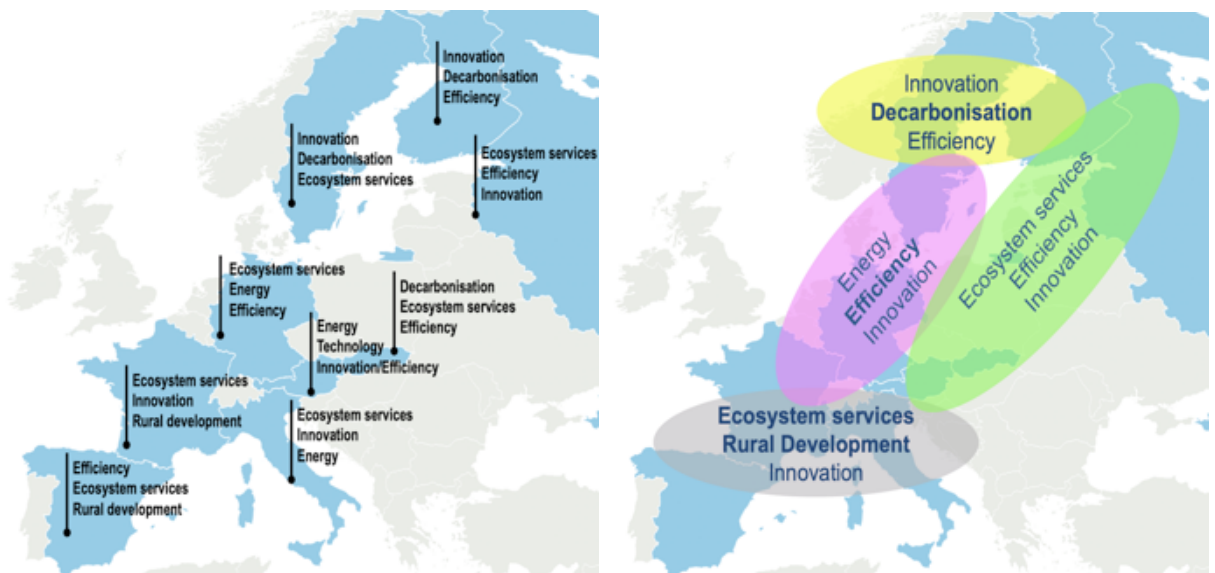
Perceived importance of **forests** within bioeconomy at the European and country scales (a) & gaps (b)

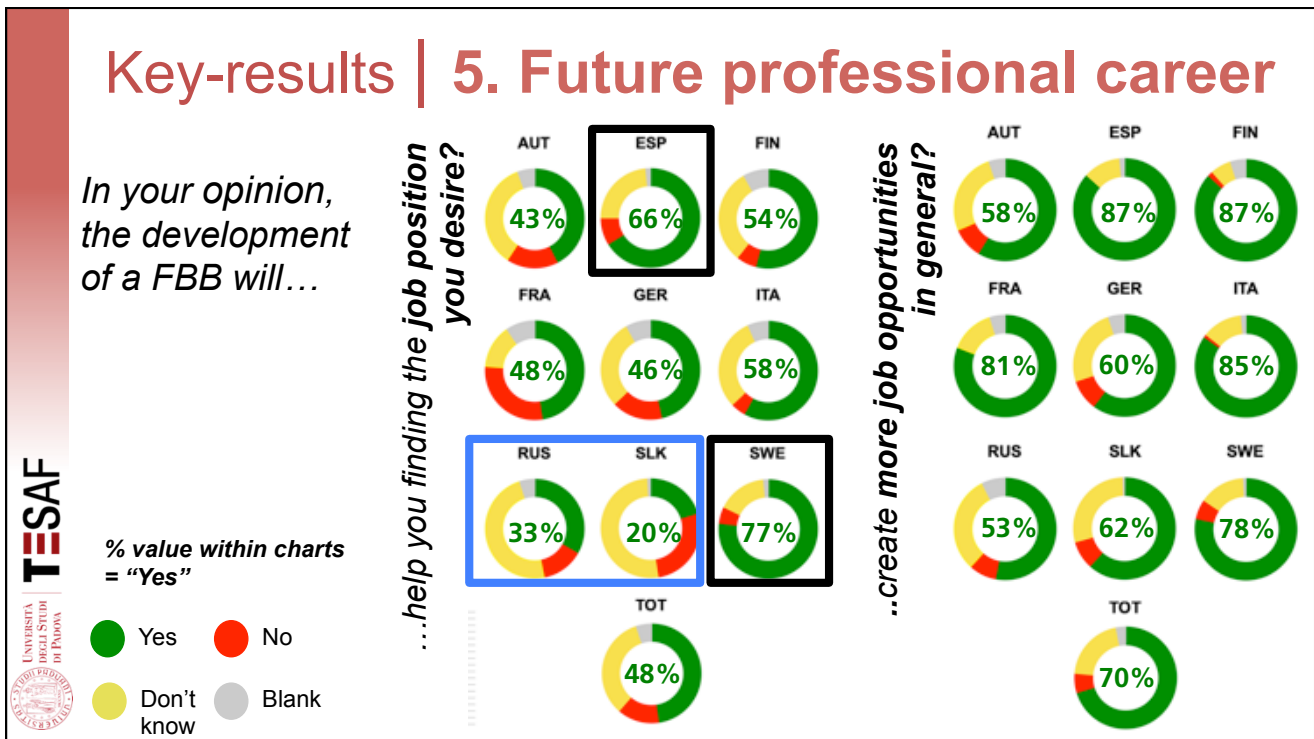


Key-results | 4. Key-words

(a) Bioeconomy key-words per targeted-country

(b) Bioeconomy key-words: clustering





Final considerations

- Limitations (uneven N. responses across/within countries) & possible improvements
- **Different bioeconomy perceptions (& definitions)** (Kleinschmit *et al.*, 2014; Pfau *et al.*, 2014; Bugge *et al.*, 2016; D'Amato *et al.*, 2017; Hausknost *et al.*, 2017; Bauer, 2018; Vivien *et al.*, 2019)
- **Limited awareness** of bioeconomy **strategies**
- **More bioeconomy at university...more of what?**
- **Key-role** perceived for **forests** and **forestry** (differences across countries)
- Bioeconomy **perceptions/visions** tend to vary **North-South** (& West-East)

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***Bioeconomy is not just
for big players of today***

*Future stakeholders shall
have voice and be in*



***Higher education as a
privileged channel***

*Value existing resources,
integrate new ones*



***An integrated &
coordinated view needed***

*Differences & peculiarities
not neglected/forgotten*