WP9: Analysis of framework conditions and labelling for the sustainability of bio-based products

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Background

Work Package 9 aimed at exploring links between the results of the project and the political framework of the EU bioeconomy (BE). We focussed on existing regulations and policies on one side and labelling, standardisation and certification activities on the other side. Both, with the objective to picture the status quo and highlight opportunities to close potential weaknesses in exiting frameworks with STAR-ProBio products.

Goals and Methods

An initial selection of 101 policy documents, derived from desktop research was condensed by filtering, aiming at an inventory of 50 policy documents in a first step. This selection was in-depth analysed, supported by a standard review template. This in-depth analysis focused on the consideration of sustainability aspects and assessment tools in the policy frameworks.
In Task 9.2 the existing landscape of (eco) labels and standards was analysed for their applicability within BE value chains. This work was carried out assessing existing ecolabels (a), identifying case studies (b) and conducting expert interviews (c). The objective was to develop recommendations for the (further) development and use of (eco) labels in the BE.

Key results and conclusions

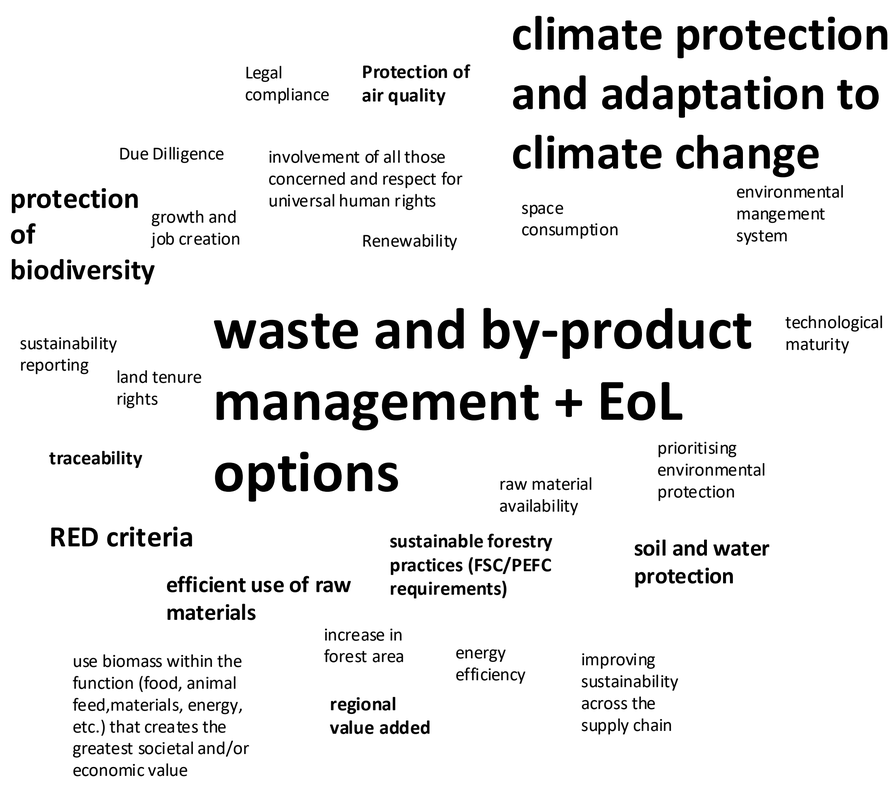

Fig. 1. Sustainability criteria or requirements identified in the analysed policy documents arranged in a relevance cloud. The font size varies according to the frequency criteria and requirements were mentioned.

Assessment criteria	Relevance according to interviews			
	Bio-based car components	PLA/Food packaging	Mulch Films	Insulation materials
Sustainable biomass/ bio-based content				
CO_2 emissions				
Toxicity				
End-of-life options				
Fitness for use				
Corporate social responsibility				
Fundamental principles and rights at work	O			
Energy requirement during production	O			
Biomass utilisation efficiency				
Life cycle values				
Life cycle costing specifically				

Legend: relevant in >50% of the interviews; relevant in 50% of the interviews; not relevant in >50% of the interviews; O alternatively, a suggestion for a modification was made

Table 1. Relevance of eco label criteria in the four case studies.

From the **inventory of the policy frameworks** and the in-depth analysis, we derived the following results and conclusions:

- Within the frameworks analysed, a high number of policy documents contained targets and goals towards sustainability and BE development (in 72% of the sample). However, only half of them were considered measurable.
- More quantifiable targets and goals could be a way forward towards a sustainable BE.
- Criteria and requirements identified in the BE policy frameworks are not balanced between the three dimensions of sustainability.
- Most frequently mentioned criteria were assigned to the environmental sustainability pillar (Fig. 1).
- Besides single criteria, sets of criteria derived from certification schemes and the Renewable Energy Directive were identified, indicating acceptance as sustainability assessment tool.
- For single BE sectors, existing schemes are taken as a benchmark for public procurement activities (e.g. PEFC/FSC: wood products).

Based on the **labelling analysis**, the following conclusions and recommendations are provided:

- A potential expansion of the EU eco-label criteria and even for new product categories should be considered (Table 1).
- Amendment of certain regulatory measures to better integrate relevant characteristics for bio-based products, covering the entire life cycle.
- LCA studies need further embedding in EU policy.
- A minimum biomass content should be implemented together with sustainable biomass production criteria.
- Some sustainability criteria need to be product specific.
- More coherence is needed between legislation and other market mechanisms like standards and certification schemes.
- Multi-criteria approach allows for a 'fuller' treatment of sustainability.
- The EU's product policy has to better account for bio-based products.
- The EU's Bioeconomy Strategy needs to further define sustainability criteria for bio-based products.

WP Partner logos

References

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