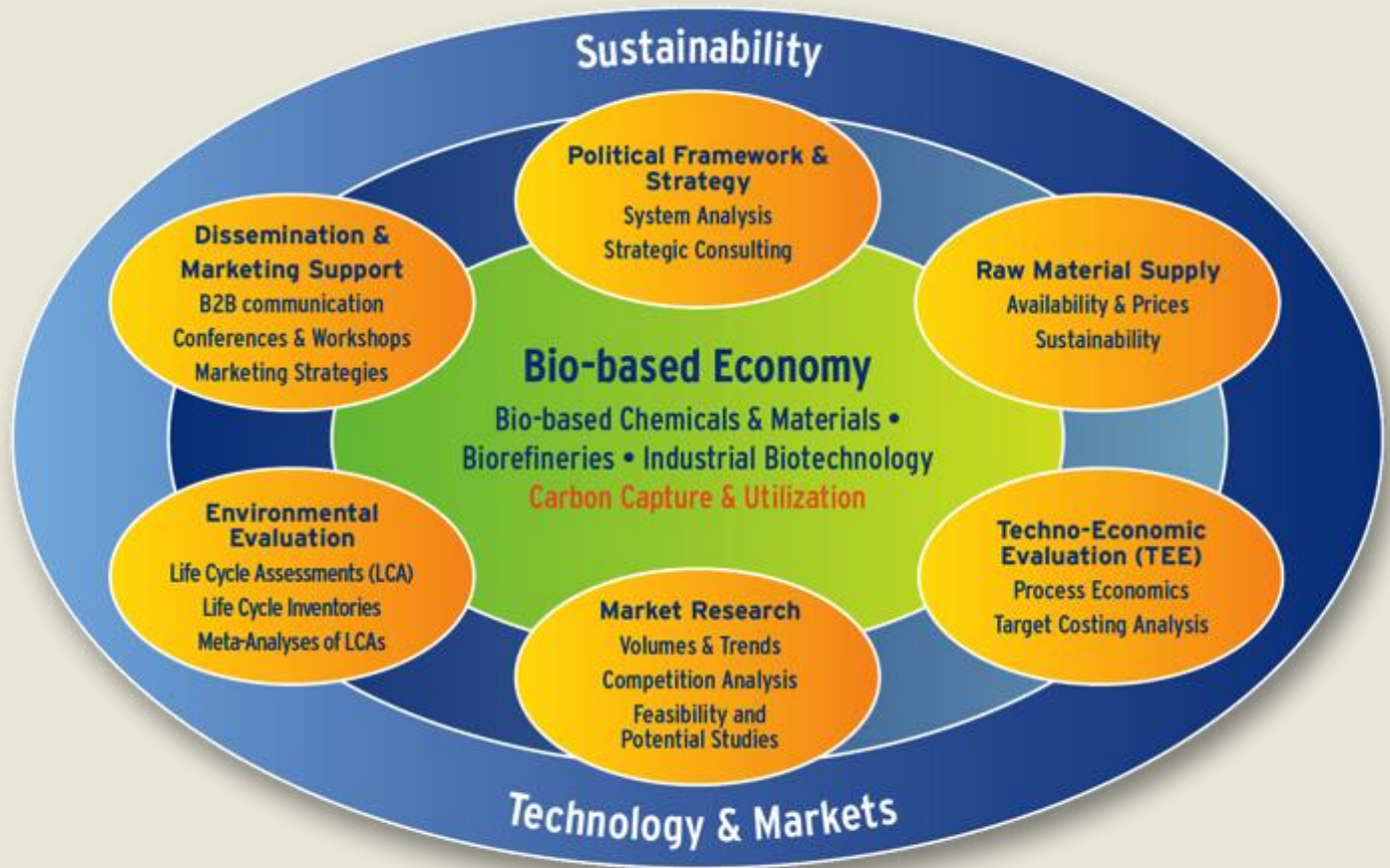
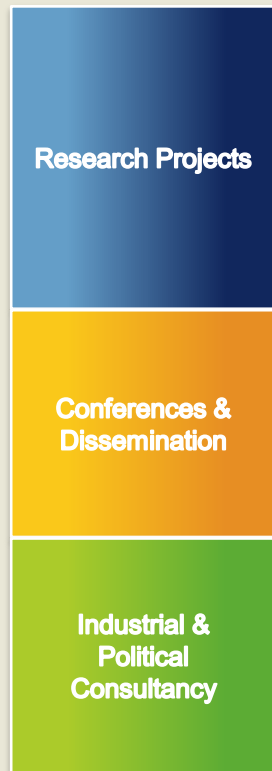


Socio-economic implications of fibre crops:

The role of sustainability standardization and certification

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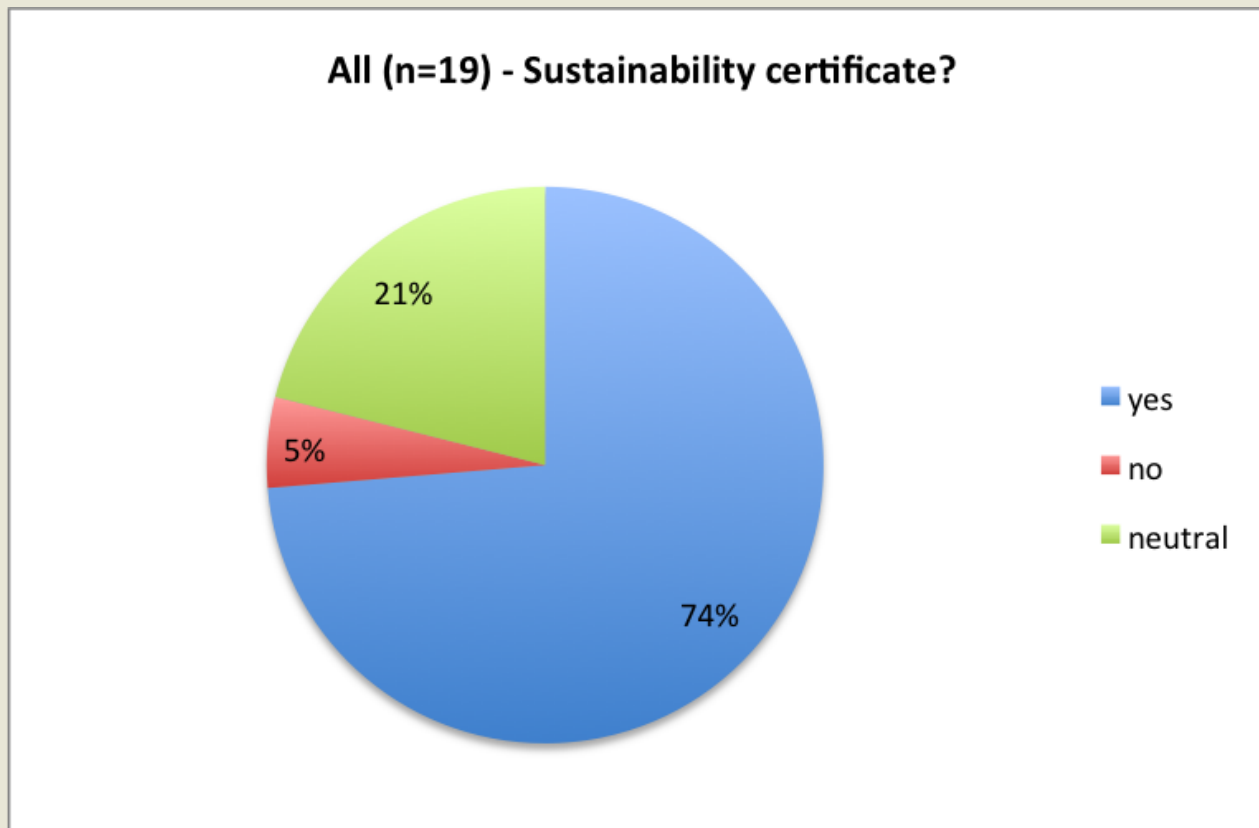


- There are currently several different activities going on at the global, European and national level aiming at sustainability standardization and certification of biomass for material uses.
- These activities are of particular interest for producers, traders and industrial users of natural fibres since they may in the future have to comply to these standards or may need to acquire sustainability certifications in order to respond to consumers' demand for environmentally and socially equitable products.
- We therefore assess the environmental and social properties of natural fibres along the main standardization and certification schemes that are currently developed.

- Certification is a suitable instrument to prove sustainability. At the same time certification expresses and allocates the added value of sustainability within the market as well as it yields further positive economic effects.
- A certification has widely reaching positive effects. First of all, it strengthens the sustainable way of using resources as it favours sustainably produced and processed goods and services.
- For the companies, it strengthens their marketing effects as the corresponding label raises attention and helps to establish brands. More important, however, is the fact that companies are being enabled to add an additional margin to their products according to the emotional performance (the Green touch) that is part of the overall product performance and (generally) valued by the end consumers.

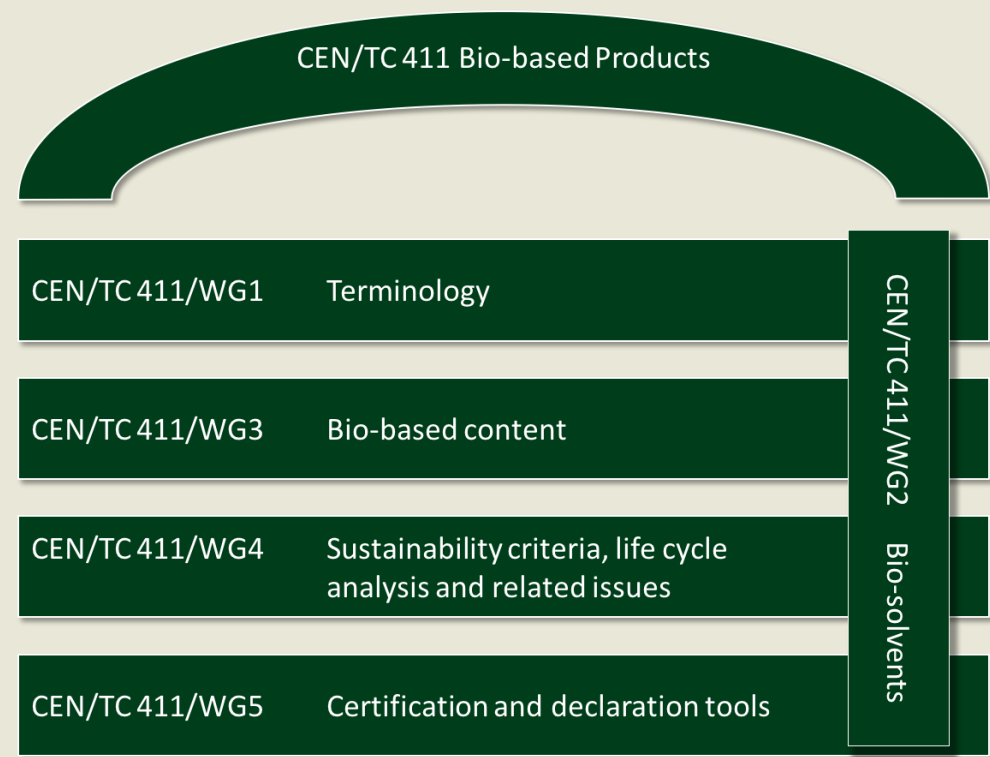
- Moreover, certification strengthens companies' supply chains as it ensures transparency and process reliability. These factors also favour the investment climate for potential customers.
- Still, in the whole world, there is not yet any certification for sustainably produced natural fibres.
- nova-Institute has therefore conducted online a Short survey on a certification system for natural fibres in the automobile industry. Based on 19 respondents along the value chain 74% welcomed a reliable sustainability certificate for natural fibres with regard to environmental and social aspects; 21% had a neutral position, 5% gave a negative answer. 100% of OEMs (n=3) welcomed such a certificate, e.g. BMW.

Short survey on a certification system for natural fibres in the automobile industry: Would you basically welcome a reliable sustainability certificate for natural fibres in regard to environmental and social aspects?



- **Standards** are defined as documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines or definitions, to ensure that materials, products, processes and services are fit for their purpose. (ISO 1996)
- **Certification** is a procedure by which a third party gives written assurance that a product, process or service is in conformity with certain standards. Certification can be seen as a form of communication along the supply chain. The certificate demonstrates to the buyer that the supplier complies with certain standards, which might be more convincing than if the supplier itself provided the assurance. (FAO 2003)
- A **certification label** is a label or symbol indicating that compliance with standards has been verified. Use of the label is usually controlled by the standard-setting body. Where certification bodies certify against their own specific standards, the label can be owned by the certification body. (FAO 2003)

- On the EU level, a CEN (European Committee for Standardization) working group is currently formulating principles and criteria for the sustainability of bio-based products (CEN/TC411/WG4). Once this CEN standard is in place, it will encompass all three pillars of sustainability (environmental, social and economic aspects).



- In that, the standard will in fact have a much wider scope than the existing requirements for bioenergy and biofuels – and these sustainability criteria are also only a requirement for bioenergy and biofuels if they are to count in the quota.
- Furthermore, it is astounding that the petrochemical sectors is not obligated to fulfil any sustainability criteria and that there is no controversy about this issue, especially since the large majority of criteria in the following table could be applied to petrochemical applications as well:

	Industrial material use, CEN TC 411 on bio-based products (draft version 2014)	Biofuels	Biofuels	Bioenergy	Bioenergy, proposal for solid and gaseous biomass (draft version 2014)	Fossil-based energy, fuels & products (petro-chemicals)
Incentives	no	no	with RED incentives (accounted for in the renewable fuel quota)	no	with RED incentives on voluntary basis of the Member States (accounted for in the renewable fuel quota)	different subsidies in many countries
Number of environmental criteria	9	0	5	0	7	0
Number of social criteria	6	0	0	0	0	0
Number of economic criteria	1	0	0	0	0	0
Total number of sustainability criteria	16	0	5	0	7	0

Source:
Carus et al.
2014

- How would natural fibre fare on the CEN sustainability criteria (focus on social and economic criteria)?

Sustainability criteria	Principles
Environmental criteria	Promote good air quality and climate protection.
	Conserve and protect water resources.
	Protect soil quality and productivity.
	Promote the positive and reduce the negative impacts on biodiversity.
	Promote efficient use of energy and material resources and the prevention of resource depletion.
	Promote responsible waste management.
Social criteria	Respect labour rights.
	Respect land use rights (labour rights, working and living conditions)
	Respect water use rights.
	Promote local development.
Economic criteria	Produce and trade bio-based products in an economically and financially viable way.

Social principle: Respect labour rights

- Criterion: The economic operator provides information on how **labour rights** are addressed.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking

- Criterion: The economic operator provides information on **how working conditions** are addressed.
 - Main concerns at different stages of the value chain:
 - Agriculture: Pesticides, water retting
 - Processing: Risk of mutilation (outdated technologies), dust contamination and potential allergic reactions

- Criterion: The economic operator provides information about the **living conditions** of employees if these are living on site.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking

Social principle: Respect land use rights

- Criterion: The economic operator provides information on how **land use rights** are addressed to gain free, prior and informed consent.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking

Social principle: Respect water use rights

- Criterion: The economic operator in water-scarce areas provides information on how **water availability for human consumption and food production** are addressed.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking

Social principle: Promote local development

- Criterion: The economic operator provides information on how they promote **local development**.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking
 - In general, the extent to which processors of natural fibres engage in activities to promote local development will largely depend on how much actors further down the value chain and especially end consumers will reward such activities.

Economic principle: Produce and trade bio-based products in an economically and financially viable way.

- Criterion: The economic operator provides information on how **fraudulent, deceptive, or dishonest consumer or commercial business practice** that is prohibited by applicable laws is addressed.
 - Depending on the country and region of crop cultivation;
 - Validated information for Europe and China lacking

- The discussion of sustainability implications of natural fibre crops along the criteria of the draft CEN standard for the sustainability of bio-based products has shown that, first, substantive information for some of the criteria, especially the social criteria, is either missing or only describable for specific cases but not generalizable.
- Nevertheless, the sustainability evaluation along such initiatives is meaningful because eventually producers, processors and industrial users of natural fibres will have to adhere to these in order to be competitive in international trade and to comply with consumers' demand.
- Producers of European hemp fibres are currently aiming to obtain a sustainability certification according to the ISCC PLUS sustainability certification. European hemp fibres would then be globally the first natural fibres with such a certificate.