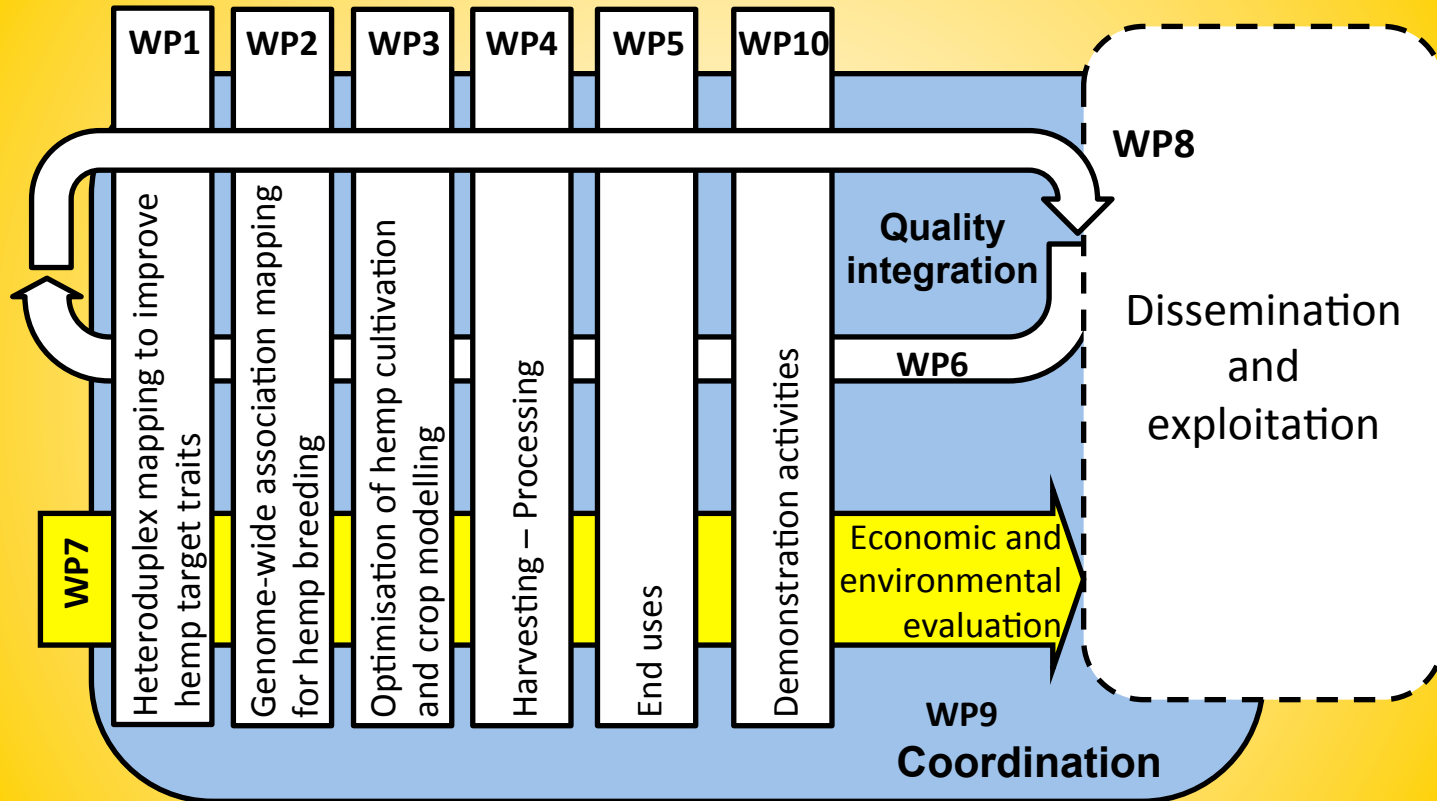




Multipurpose hemp for industrial bioproducts and biomass - MultiHemp

Disseminating hemp value to strengthen its production chains

**nova-Institute
Michael Carus
23rd May 2013**



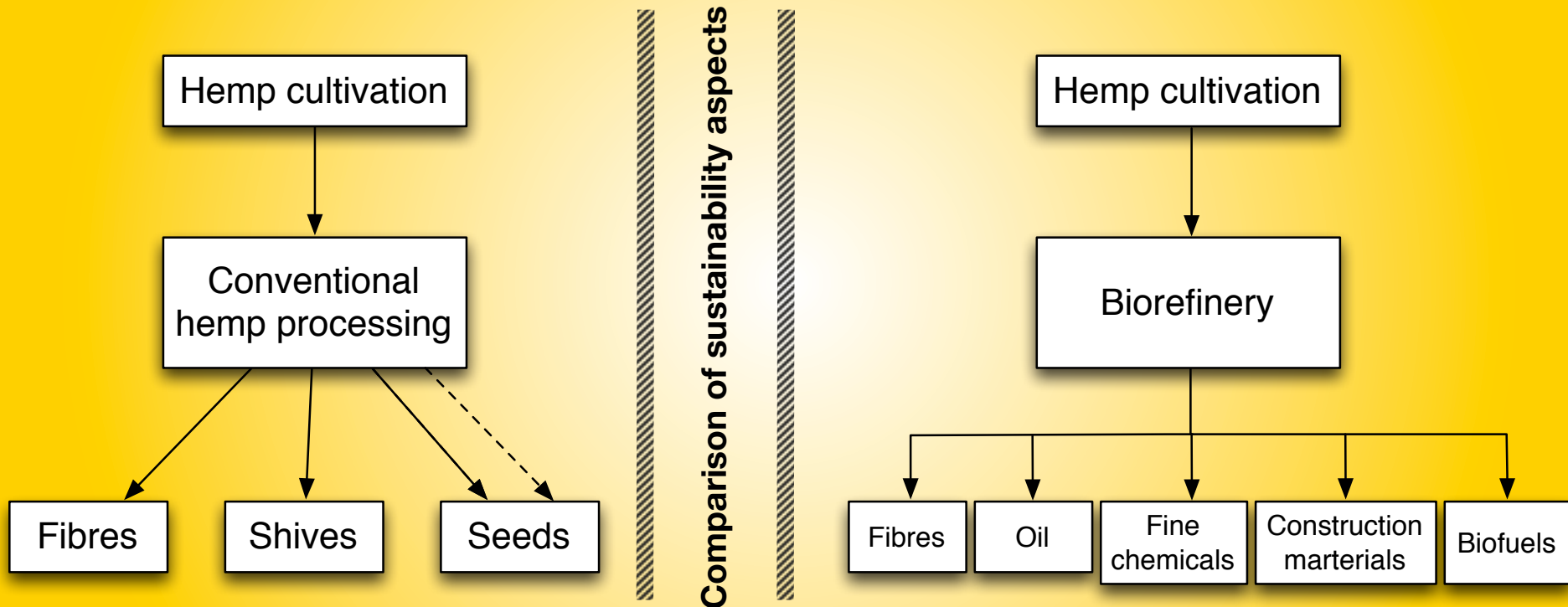


Aspect of competitiveness – the idea of an integrated sustainability assessment

- **The integrated sustainability assessment is based on a techno-economic evaluation (TEE) and a life cycle assessment (LCA).**
- **TEE and LCA evaluations are carried out on a**
 - **system level (conventional hemp production system in comparison to (innovative) biorefinery system)**
 - **product level (selected hemp products in comparison to petrochemical / cotton based counterparts)**

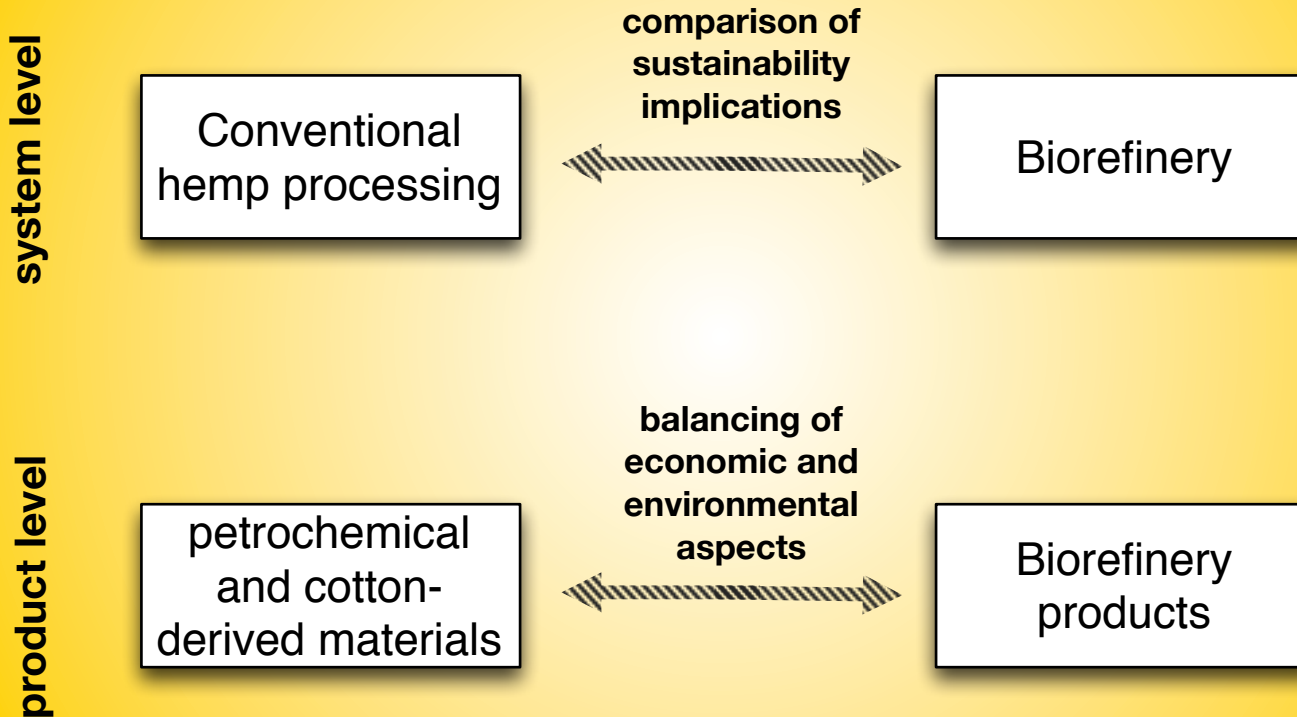


Sustainability implications on system level





Exploiting the results...



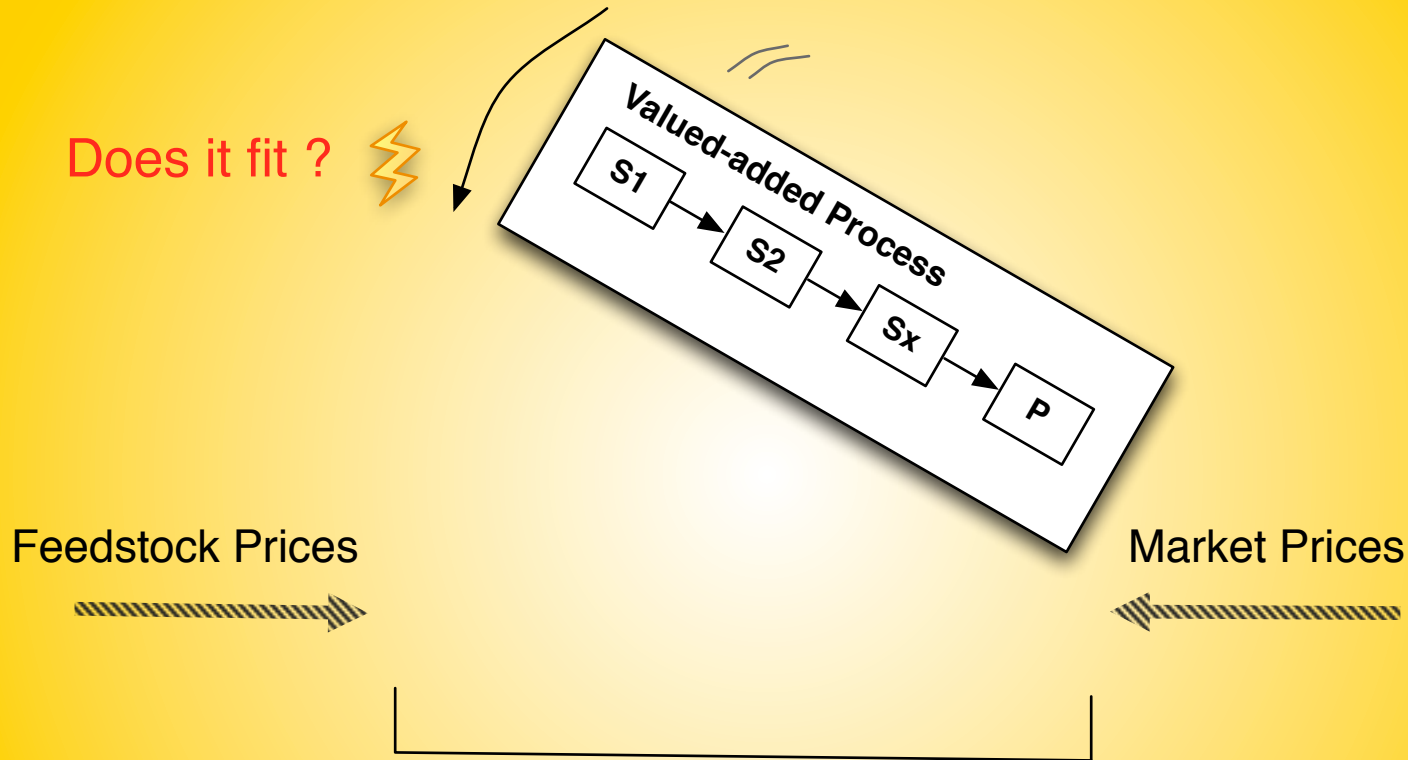


Objectives of the techno-economic evaluation

- **Assessment of process / production costs for targeted hemp products and comparison with competition prices – thereby taking into account of competing uses of hemp for food and feed**
- **Surveys of industrial users' preferences on which genetically modifiable hemp properties should be developed**
- **Detection of cost reduction potentials by target costing approach**
- **Case studies: assessing the value-added potential of using the whole hemp crop in different European regions**



Techno-economic evaluation – the essential question

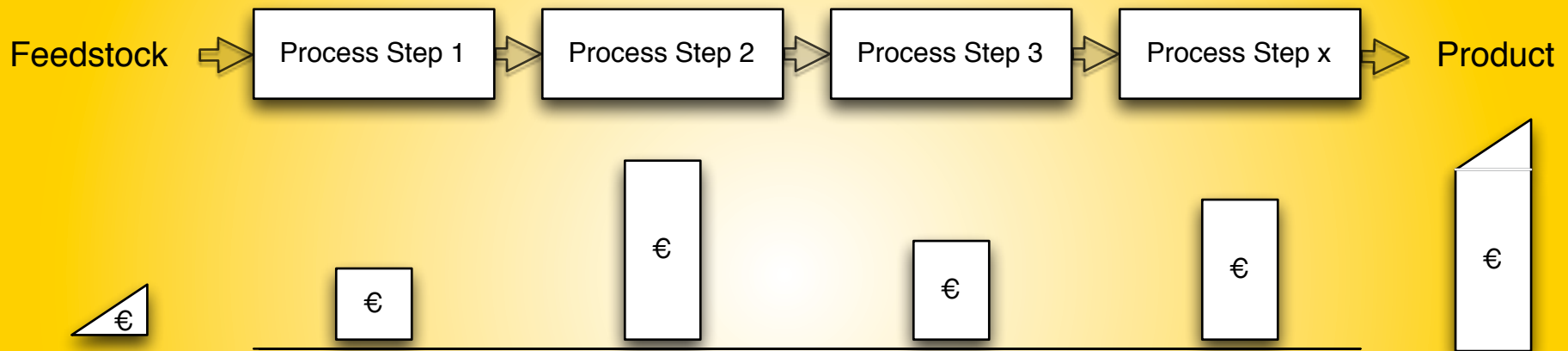


Feedstock prices depending on:
Seed prices, cultivation,
harvesting, storage & logistic
costs.

**Market prices depending on a
product's performance:**
technical, strategic,
emotional.



Techno-economic evaluation – process steps' costs



Evaluation of

1. feedstock price (price ranges)
2. market prices (price ranges) of targeted products
3. process step costs

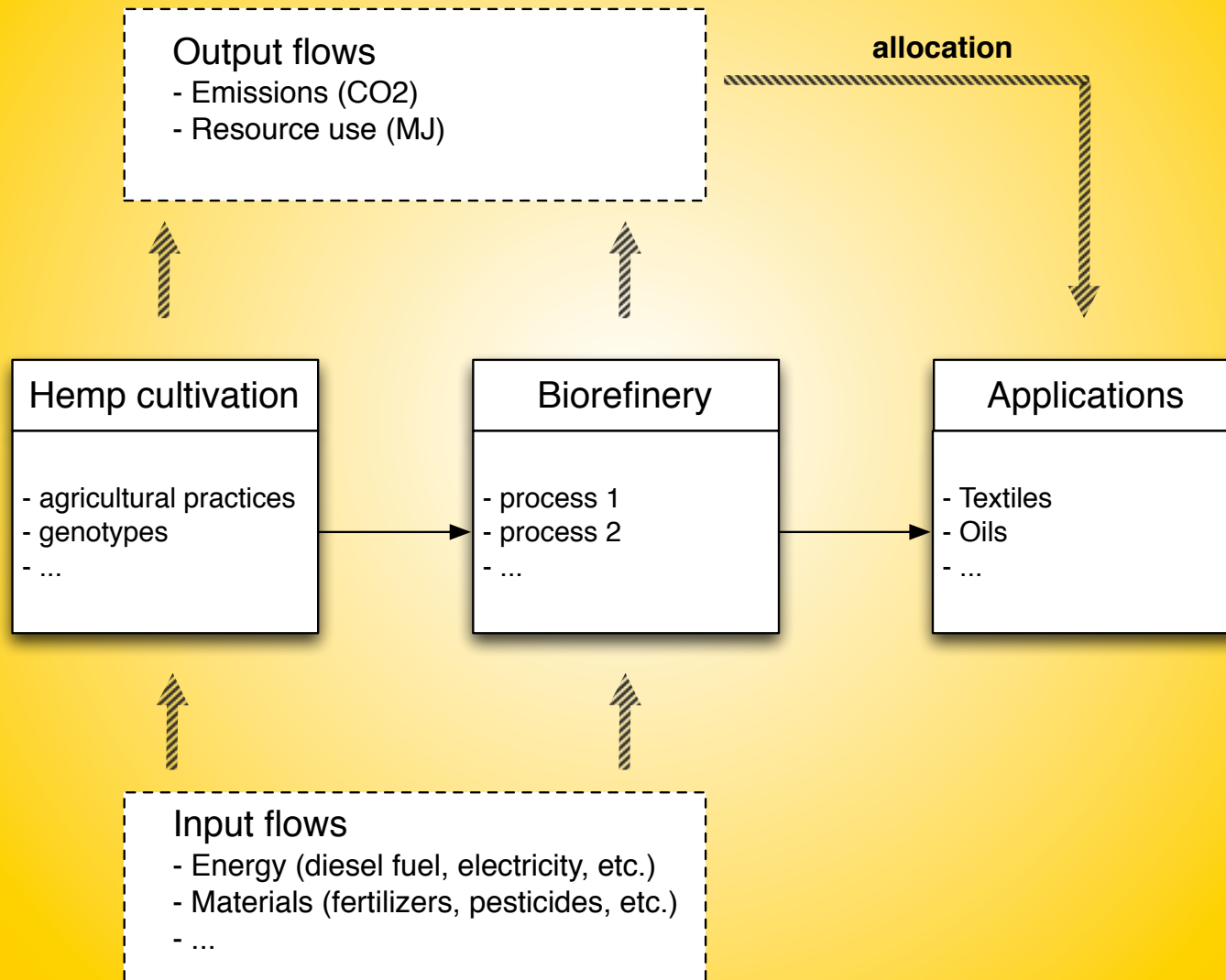


The LCA approach

- **Compare sustainability implications of the proposed hemp biorefinery system with a reference system of conventional hemp utilisation (single / dual purpose system)**
- **Evaluate the possible environmental impacts associated with the production of hemp products and compare results with substitutes (petrochemical and cotton-based materials)**
- **Identify the process steps that determine the environmental implications of the whole production system significantly**
- **Identify the most efficient use of resources in every pathway considering genotypes, agricultural practices, production processes and final goods**
- **Focus on two important impact categories:**
 - **Global warming potential (climate change)**
 - **Non-renewable energy use (resource depletion)**



Environmental impacts on product level





Questions to stakeholders...:

- ***Thinking of the integrated sustainability assessment:
How would you balance the relevance of the performance / costs ratio and the environmental impact?***
- ***Are there other aspects to investigate in order to assess the hemp value? (GreenPremium prices, social aspects, macroeconomics, certification)***



Touching the public – ways of communication (B2B / **S2B)**

First of all, when talking about communication:

It's not a one way street as we are...

- **Spreading news**
- **Receiving requests**
- **Interacting**



Touching the public – ways of communication

Direct ways:

- **Publications (via internet and printed issues)**
- **Press releases**
- **Presence at scientific and business events (conferences, workshops, fairs, etc.)**
- **Entries into (scientific) databases and linkage to (other) research sources**
- **Presence in newsletters, in news portals, etc.**
- **Surveys (via internet, direct interviews, etc.)**

Indirect ways:

- **Via innovation networks**
- **Via policy recommendations**



www.multihemp.eu



Home [Project Overview](#) [Research](#) [Partners](#) [Contact us](#)



FP7 – MultiHemp – Multipurpose hemp for industrial bioproducts and biomass

In the frame of multi-hemp, the partners will use cutting-edge genomic approaches to achieve rapid targeted improvements in hemp productivity and raw material quality for end-user requirements, whilst also advancing scientific understanding of gene-to-trait relationships in this crop.

This work will be combined with innovations in agronomy, harvesting and processing methods to generate sustainable products from improved varieties.

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Press releases and mailings

☒ xAgr - Agrarbereich	☐ xMöb - Möbel
☐ xAuto - Automobilindustrie	☒ xNF - Naturfasern
☐ xBau - Bau- und Dämmstoffe	☐ xÖko - Ökologie
☐ xBekl - Bekleidungs- und Heimtextilien	☐ xÖl - Öle und Fette
☐ xBind - Klebstoffe/Bindemittel	☐ xPharm - Pharmazeutika
☐ xBiok - Bio-Kunststoffe-BAW	☐ xPol - Politik
☐ xBioschm - Bioschmierstoffe/Hydrauliköle etc.	☐ xReg - Regionalentwicklung
☐ xCCU - Carbon Capture Utilization (CO2)	☐ xRoh - Rohstoffe / Ressourcen
☐ xChem - Chemie (Biotechnologie)	☐ xSolar - Solarenergie
☐ xEBiog - Energie: Biogas	☐ xSons - Sonstige
☐ xEBTL - Energie: Synthetische Kraftstoffe / BTL	☐ xStä - Stärke
☐ xEEth - Energie: Bio-Ethanol	☐ xStoff - Stoffliche Nutzung (Strategie)
☐ xEFest - Energie: Feste Bioenergieträger	☐ xTT - Technische Textilien
☐ xEMobil - Elektro-Auto & Co	☒ xUni - Universität/FH & Forschungsinstitute
☐ xEPÖL - Energie: Pflanzenöl-Direktnutzung	☐ xVerbä - Verbände/Institutionen - (halb)staatl.
☐ xERE - Erneubare Energien	☐ xVerbu - Verbundwerkstoffe
☐ xERME - Energie: Bio-Diesel/RME	☐ xVerp - Verpackungsmaterialien
☐ xFarb - Naturfarben und Lacke	☐ xWasch - Wasch- und Reinigungsmittel
☐ xGanz - Ganzpflanzennutzung	☐ xWPC - WPC
☐ xGeoA - Geo- und Agrartextilien/-folien	☐ xZell - Zellstoff/Papier
☒ xHanf - Hanf	☐ xZu - Zucker
☐ xHolz - Holz/Lignocellulose	
☐ xKunst - Kunststoffe (ohne Bio-)	
☐ xLeben - Lebensmittel	
☐ xMark - Marketing/Design	
☐ xMasch - Maschinenbau	

☐ xAus - Aussteller	☐ xnovak - Kernteam Büro Hürth
☐ xDt - Deutsch	☐ xOrg - Organisation & Office
☐ xEvent - PR	☐ xPart - Partner
☒ xFreu/xKern - Kernakteure / Freunde von nova	☐ xPress - Presse
☐ xiBIB - iBIB-Kunde	☐ xPrint - Print (für Layout-Abteilung)
☐ xnova - nova-Team (extern & intern)	☐ xSpon - Sponsor

- Targeted communication via selected bio-based sectors (in total 35,000 addresses)
- Press directory: 4,000 addresses
- Monthly nova-newsletter going to 35,000 bio-based experts world wide



Conferences

9th International Conference of the European Industrial Hemp Association (EIHA)

www.eiha-conference.org

May 23th–24th 2012

Rheinforum, Wesseling/ near Cologne (Germany)

Conference language: English

++ Cultivation ++ Processing ++ Economy ++ Sustainability ++ Innovation ++



Photos: Hempro Int., Lohr D&S, Hemp Technology Ltd, HPPF Corporation

Don't miss the biggest industrial hemp event in 2012 – world wide!

The congress will focus on the latest developments concerning hemp and other natural fibres as well as hemp nuts, oil and proteins.

Applications

- Fibres & shives
- Bio-Composites
- Insulation
- Construction
- Textiles
- Hemp nuts, oil and proteins

Spectrum of participants

- Natural fibre industry
- Hemp food and feed industry
- Cultivation consultants
- Engineers
- Traders and investors
- Research and Development

Exhibition

You are welcome to present your latest products, technologies or developments – book a stand and a bulletin board now for only 200 EUR (plus 19% VAT).

Organiser



www.nova-institute.eu

Sponsor

Hempro Int.

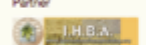
www.hempro.com

In co-operation with EIHA



www.eiha.org

Partner



www.internationalhempbuilding.org



www.eha.eu.org

Media Partner



www.hempindustryinsider.com

Media Partner



www.hempindustryinsider.com



www.hempindustryinsider.com





Questions to stakeholders...:

- *What kind of information do you specifically need?*
- *Via which channels?*
- *Whom we should specifically touch?*
- *What do you want us to know? How do you want to get in touch with us?*



Special issue: A sustainability certificate for hemp / natural fibres

Natural fibres are used in many sectors of industry, including the automobile industry (over 20,000 tonnes per year). However, no reliable system for ensuring that natural fibres come from sustainable sources has yet been developed. Certification is a potential answer and could also establish and prove the added value of sustainability.

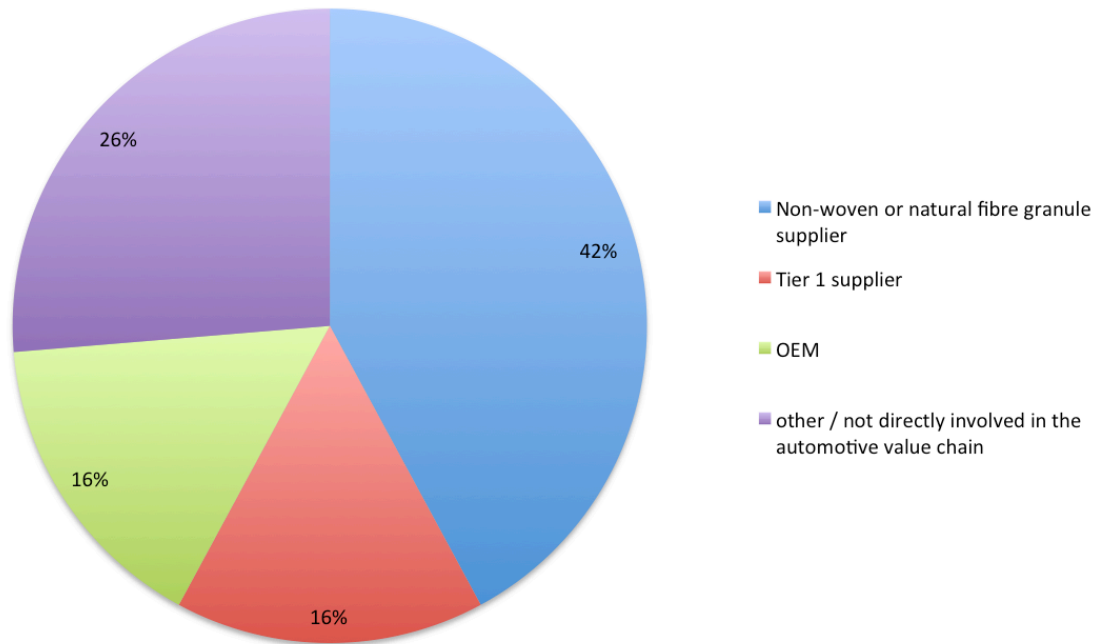
The aim of this short survey was to assess the need for certification of the sustainability of natural fibres used in the automobile industry.



Next step toward Sustainability Certification – Survey done, budget from FP7 project MultiHemp?

Survey on sustainability certification for natural in spring 2013

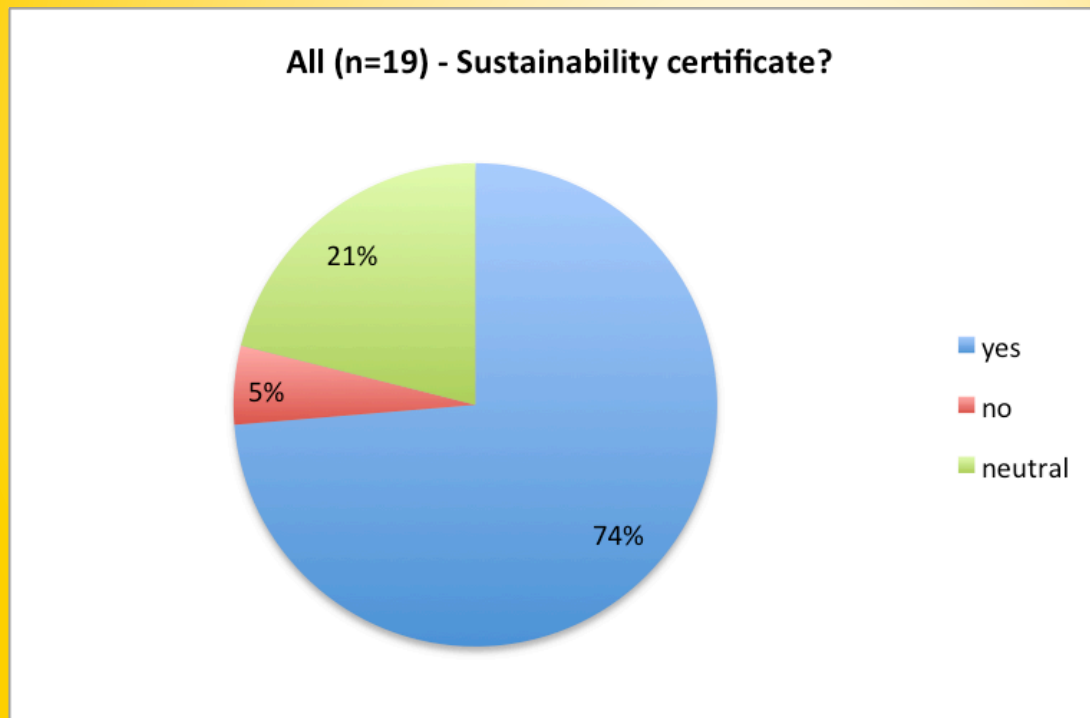
Who has participated in the survey? (N=19)





Would you basically welcome a reliable sustainability certificate for natural fibres in regard to environmental and social aspects?

Survey on sustainability certification for natural in spring 2013





Questions to stakeholders...:

- *How do you estimate the use of a sustainability certificate?*
- *Would you be willing (or would your customers be willing) to pay more for hemp fibres guaranteed from sustainable production?*