



European approaches for assessing the sustainability of biobased products

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The Biobased Economy

Transforming life sciences knowledge into new, sustainable, eco-efficient and competitive products

BioRenewables

- Become more competitive
- Reduce CO₂ emissions
- Conserve fossil resources



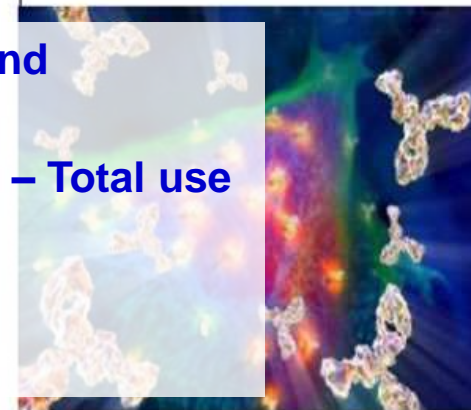
BioProcesses / BioConversions

- More selective processes improve economy and ecological impact
- Processes simplified by integrating several stages



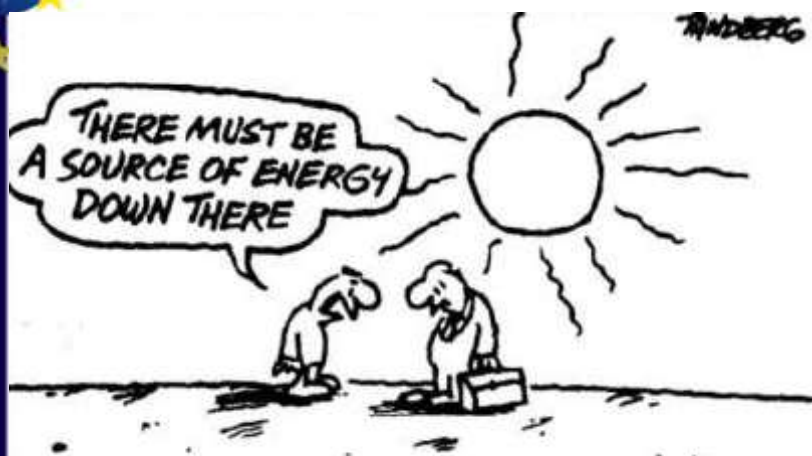
BioProducts

- Biopolymers
- Biopharmaceuticals
- Enzymes, e.g. for detergents
- Biofuels



- Displacing fossil resources uses in the energy and chemical/ material industry
- Making the most out of the renewable resources – Total use of the plant
- Use of co-products and wastes
- Life cycle thinking and sustainability

Need for (cultural) change

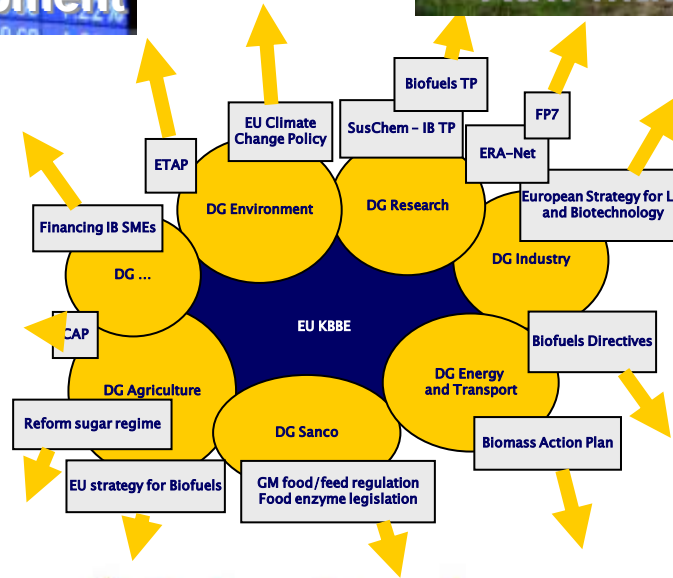


"Hey you, pick up that candy bar wrapper!"

MODERN FORAGING



Lead Market Initiative – Coherent EU policy for biobased products



Benefits and challenges for industry in the development and implementation of sustainability measuring and reporting

Benefits

- Better information to consumers
- Product acceptance/adoption
- Political support/incentives
- Development based on sound data

Challenges

- Complexity of information generated
- Communicating simple information
- Weighing of the criteria for sound decision
- Choosing meaningful criteria in a given context

Communicating sustainability

How and to whom?:

- Targets? Business vs. Consumer
- LCA? tool for improvement vs. product comparison
- Certification? Feedstock, products, ...
- Labels? consumer choice vs. over information

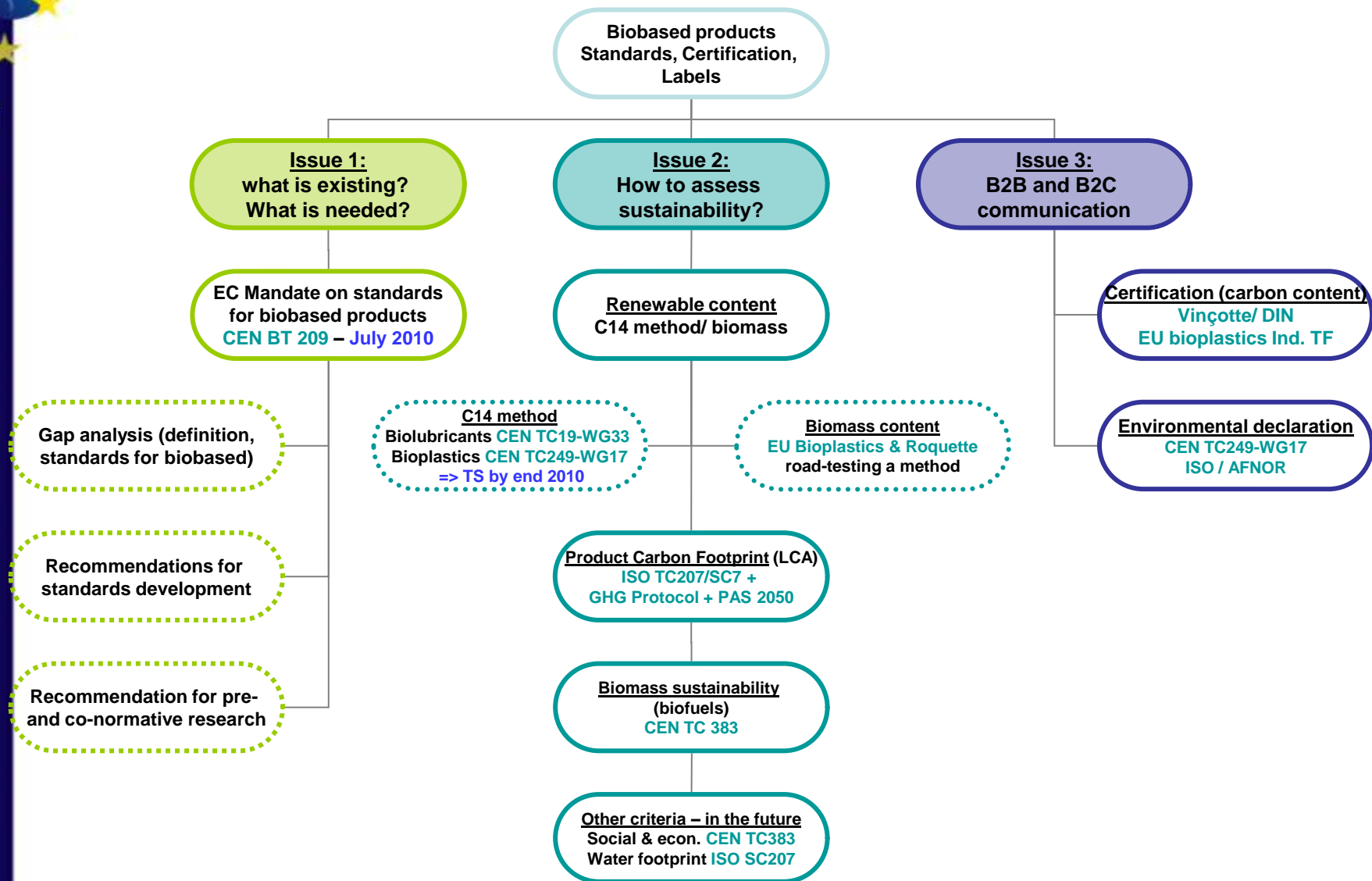
Is it feasible?

- ⇒ No “one-size fits all” – how many sizes are needed?
- ⇒ Is facing consumers with an informed choice a way to avoid governments and industry responsibility?

Which sustainability do we want?

- For a company – it is (relatively) easy
Walmart «Our broad environmental goals at Walmart are simple and straightforward:
 - *To be supplied 100 percent by renewable energy;*
 - *To create zero waste;*
 - *To sell products that sustain people and the environment. »*+ *economic (growth rate) & social (employment/quality of life) goals*
 - For the world?
 - Millenium development goals (2002)
 -
 - For the USA, Europe, every single country, state/region:
 - What is sustainable development at each level?
 - Can they be aligned?
- ⇒ Can criteria and KPI be defined if no clear goal exists?

Ongoing work on standards, certification and labelling of biobased products in EU



EuropaBio – LMI priority 5

Standards: CEN BT 209

- Finalisation of CEN BT 209 work (July 2010) on
 - Gap analysis of existing standards for biobased products
 - Comparison of definition
 - Description of relevant standards and scope (excl. product specification)
 - Evaluation of needs
 - Recommendation for further work on standards
 - Develop a standard for general terminology for bio-based products.
 - Identify barriers from product specification criteria or tests, which are not adapted to biobased products + research to design inclusive criteria/test
 - Recommends to CEN/BT the development of a single horizontal standard with several parts covering horizontal aspects for bio-based products.
 - a) bio-based content – determination, method, calculation, applicability and relation to product life cycle;
 - b) applying life cycle analysis guidance for bio-based products – to result in a simplified approach to determine suitability (in alignment with ISO);
 - c) applying sustainability criteria for bio-based products – in the light of the ongoing work for biofuels
 - Recommendation on pre- and co-normative research necessary (see next slide)

CEN BT 209 – Research recommendation

	Research area	Priority	Time frame	Resource indication
1.	Bio-based carbon content – test method for all products	Very high	1-2 years	Low
2.	Bio-based content in products – complementary methods	Very high	2-5 years	Medium
3.	Bio-based products: Market entry barrier studies	High	1-2 years 2-5 years for action	Low/Medium
4.	Tools for Certification of bio-based products	High	1-2 years 2-5 year for action	Low/Medium
5.	Comparability of LCA and use of simplified tools in the market place	Medium	2-3 years	Medium
6.	Quantification of end-of-life impact for bio-based products	Medium	2-3 years	Low
7.	Improvement of LCA methodology for bio-based products	Medium	3-5 years	Medium
8.	Sustainability criteria	High	3-5 years	Low
9.	Element Depletion and bio-based products	Medium	3-5 years	Medium

Renewable/ carbon content

- Development of technical specification for biogenic content
 - CEN TC 249-WG17 – bioplastics - has developed a Technical Specification (TS) on carbon content, currently under approval
 - CEN TC 19-WG33 – biolubricants is finalising a TS on carbon content

⇒ Both TS should be approved and published by end 2010
- Discussion with CEN on the development of a horizontal European Norm for biobased content (biogenic carbon & total biomass content)
- Certification:
 - Two independent certifiers have certificates (based on ASTM 6866) and labels on the market today

Conclusions/ recommendations

- Clarify what are the goals of sustainable development at different levels (company/ society/ policy makers; geographical boundaries; environmental/ economic/ social)
- Assessment methods for (environmental) sustainability criteria are on the right path. Quid of social and economic criteria?
- It is impossible to assess/ measure and communicate tens of criteria => need to consider the most important ones in a given context
- Best practices or guidelines:
 - YES for policy makers on how to use sustainability assessment for decision making
 - YES for industry on how best to apply the standards in given cases