

An overview of sustainability certification systems for biomass

Martin Junginger, Jinke van Dam, André Faaij
Copernicus Institute, Utrecht University

Co-authors: G. Best, I. Jürgens, U. Fritsche

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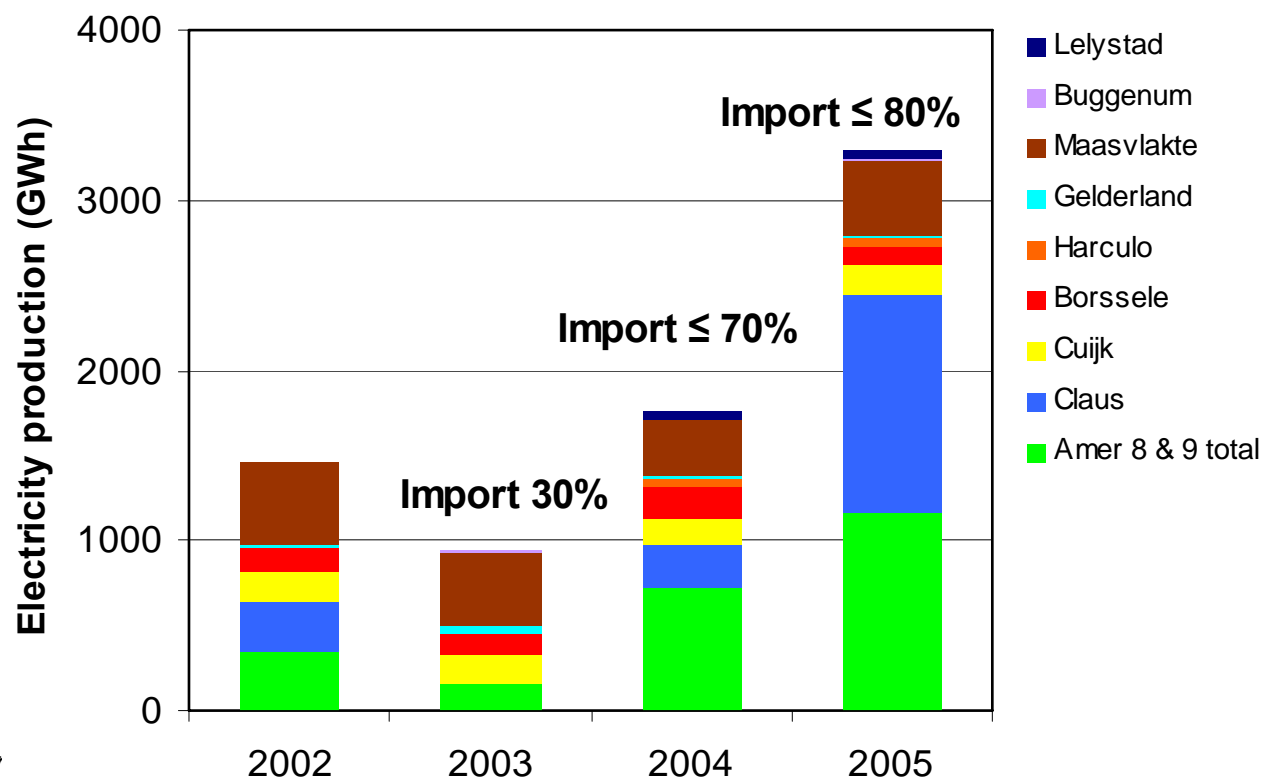
Presentation overview

1. Background: the need for sustainability criteria and certification
2. Brief overview of existing certification systems in forestry, agriculture and renewable electricity
3. Overview of current initiatives by private parties and governments
4. Barriers and boundary conditions of certification systems for biomass
5. Strategies for implementation
6. Concluding remarks



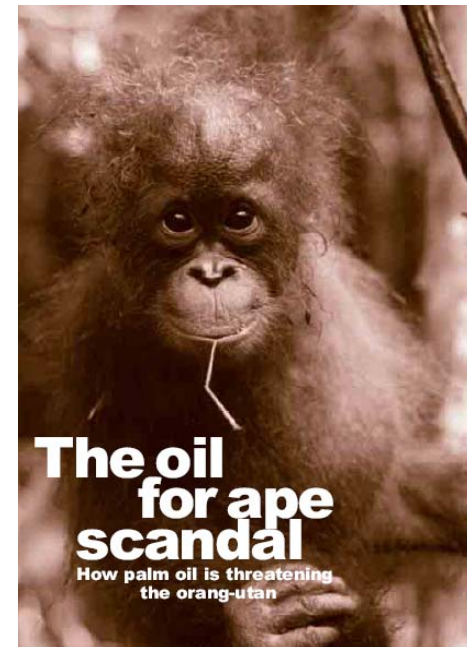
Background: the need for sustainability criteria

- Growing bio-energy demand and international supply chains create unique opportunities for biomass producing regions.
- Example: renewable electricity production in the Netherlands using imported biomass (wood pellets, agro-residues, vegetable oils)



Background: the need for sustainability criteria

- Negative side-effects of rapidly expanding commodities such as palm oil in Malaysia and Indonesia, or soy cultivation in Argentina
- Overexploitation should be avoided and sustainability criteria implemented



Overview of existing certification systems

Forestry: e.g. FSC, PEFC, FFCS...

- Developed over last 10-15 years
- Coverage: niche-market - >95%, depending on region
- Criteria mainly sustainable production

Agriculture: e.g. EUREPGAP, SAN

- produced in environmental sustainable way
- safer or healthier for the consumer
- Some following 'fair trade' principles

Green electricity: e.g. EUGENE, Milieukeur, ok-power

- In/exclusion of different biomass types & conversion technologies
- No criteria so far on biomass production



Initiatives for biomass from private parties

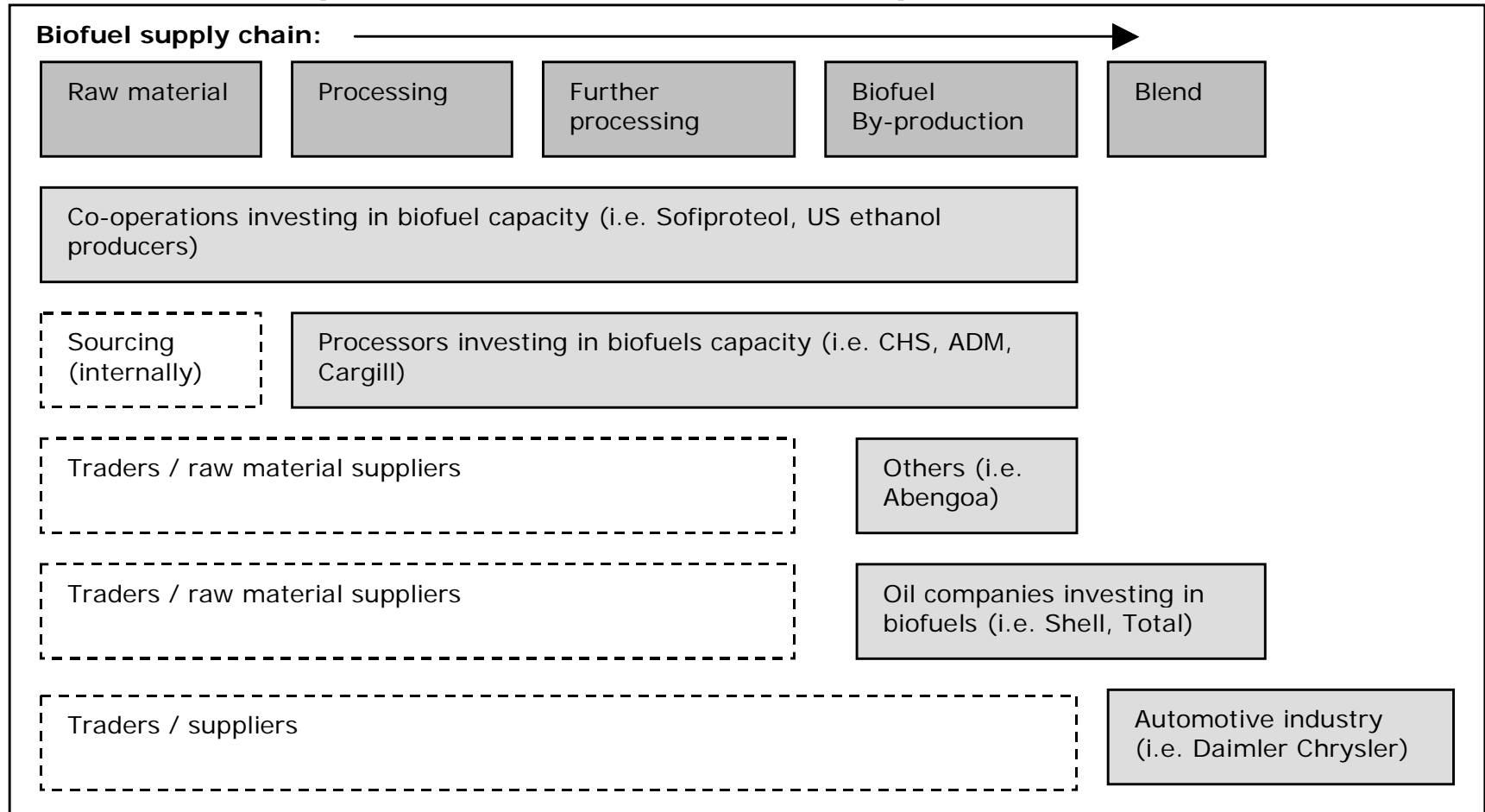
Essent: Green Gold Label standard

- Development of GGL started in 2002; 1st certificate in 2004
- Certification and supply chain monitoring program for acceptance of sustainable biofuels (sustainable forest and plantation management, fertilizer use, replanting programs, plant mass balance, cleanliness storage and shipping)
- Executed by independent certifying & inspection company (Control Union) and independent inspection company (Peterson Bulk Logistics)
- Two main sources of biofuels, Forestry and Agriculture; main criteria for GGL are sustainability and traceability

Electrabel label, discussed by Yves Ryckmans



Different companies with different focus and responsibilities for biomass certification: example of biomass transportation fuels



Source: M. van Vaals, 2006



Developments in BE, UK, DE, EU

Belgium (2 (!) systems operational), discussed by Yves Ryckmans

- System in Flanders, based on energy balance & use of fossil energy. Amount of green electricity certificate issued is corrected 'pro rata'
- System in Wallonia based on avoided CO₂ emissions, further sustainability proof by forestry certificates (e.g. FSC) and traceable chain management system at the suppliers end



Developments in BE, UK, DE, EU

UK

- Announced in November 2005 of the Renewable Transport Fuel Obligation' (RTFO)
- commence in April 2008, target 2.5% by volume renewable fuels, rising to 5% in 2010/11
- draft methodology for Carbon Reporting under the RTFO (Bauen et al, 2006)
- framework report on sustainability reporting within the RFTO (Dehue et al. 2006), including meta-standard concept (maximum use of existing standards)
- peer review and piloting of the approaches between April and June 2007, reporting requirements will be issued in the autumn 2007, reporting to start in April 2008



Developments in BE, UK , DE, EU

Germany

- Provision in draft biofuels act, which empowers the German government to establish sustainability requirements for biofuels
- German government announced it plans use this provision and to draft such an ordinance for minimum sustainability standards by mid 2007



Developments in BE, UK , DE, EU

EU

- Tender for Sustainability criteria and certification systems for biomass production

P. Hodson:

- What are the characteristics of biofuel production the EU wants to discourage / encourage?
- How to measure these characteristics?
- How should the procedural / institutional structure to set incentives for biofuels look like?
- How to ensure compliance for this mechanism?



Viewpoints of NGO's

NGOs make an appeal to assure that increased bio-energy production should not lead to environmental and socio-economic harm, at the same time seizing the opportunities for sustainable development

Common points of attentions from NGO's:

Conversion of land use; depending on spatial distribution & cultivation practices, bioenergy production could lead to **loss of biodiversity** and further **degradation of soils and water bodies**;

- (indirect) **competition** between land use for **food production** and land use for bioenergy production;
- **Land ownership** should be equitable and land-tenure conflicts should be avoided;
- Labour conditions, right of children & human health impacts



International bodies & initiatives

International Bioenergy Platform (**IBEP**), initiated by FAO, focused on knowledge management and transfer. IBEP will provide expertise and advice for governments and private operators to formulate bioenergy policies and strategies

FAO Forestry Department working on biomass certification in cooperation with IEA Task 31 :

- Evaluation of principles, criteria and indicators for both biomass from forestry, wood fuel & charcoal production systems
- review of existing forest certification schemes
- criteria are developed to cover forest biomass for energy, tested in the field using case studies, start end 2006



International bodies & initiatives

UNEP activities include

- Certification of Biomass Project (with WWF and others)
- Lead development of a collective programme on bioenergy sustainability under the G8's Global Bioenergy Partnership GBEP
- sustainability criteria for production of biomass for liquid biofuels with DaimlerChrysler and other stakeholders

IEA Bioenergy **Task 40** on sustainable international bio-energy trade, workshops and studies on biomass criteria and certification options

Round tables on sustainable palm oil (**RSPO**) and soy (**RTRS**), multi-stakeholder initiatives focussed on specific product, though not specifically for biomass to energy



Potential barriers and boundary conditions

- **Sense of urgency** – international trade is growing fast
- But, with too many initiatives on various levels, a **danger of fragmentation and incompatible certification systems** exists – prevent proliferation of standards
- **Stakeholder involvement** in producing countries often neglected, especially smallholders



WTO rules and international treaties

- Implementation of criteria on GHG emission are deemed feasible by most experts, and biomass from developing countries often score well
- Linking environmental & social-economic criteria to trade has been met with opposition in the past, voluntary standards (e.g. as FSC, fair-trade principles) possible
- WTO agreements are a result of negotiations between members, and in advance the outcome of these agreements is unsure



Potential barriers and boundary conditions

- some sustainability criteria may actually **conflict with each** other
- **additional costs** of meeting the sustainability criteria (and cost of certification) will have to be evaluated
- Inclusion of **not enough/soft** criteria will result in “**greenwashing**” (fear of NGO’s)
- Inclusion of **too many** criteria will may in fact create **new market barriers** (fear of industry)
- **Monitoring of compliance** crucial, otherwise the “cheaters” may win (fear of both NGO’s and industry)



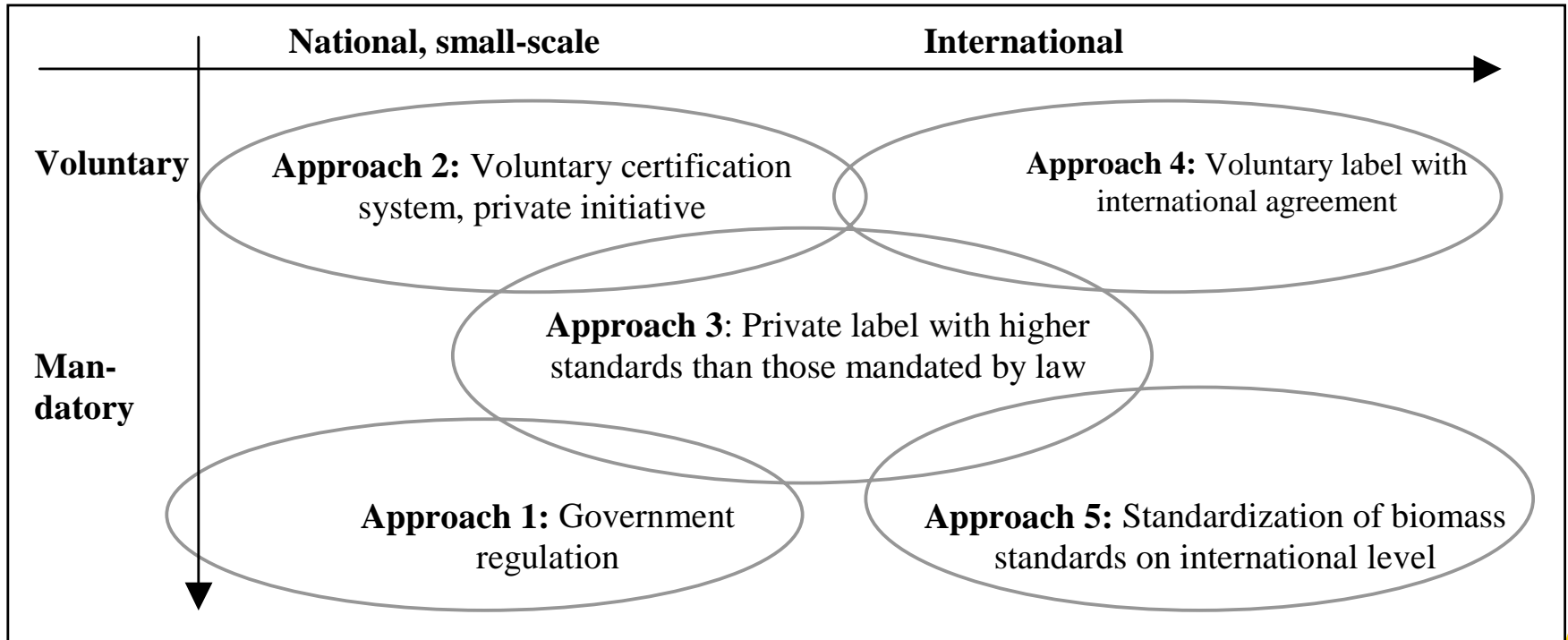
Mandatory certification not the only option

Several policy tools/strategies to pursue the sustainability:

- **Certification**: Only biomass that is certified according to criteria derived from sustainability principles is allowed to be imported
- **Product-Land Combinations**: Only biomass from regions that comply with sustainability principles allowed for import
Government decides which products/regions are eligible for government support
- **Regionalization**: In this strategy, Europe utilizes its own biomass resources before importing biomass from developing countries
- **Self-regulation**: code-of practice defined by parties involved in production and trade



Possible strategies for implementation



Concluding remarks (1/2)

- Currently, initiatives are growing like mushrooms; risk of 'proliferation of standards' -> better international coordination between initiatives required to improve coherence and efficiency in the development of biomass certification systems
- Lack operational indicators & verifiers-> gradual development of certification systems with learning (through pilot studies and research) and expansion over time, linked to the development of advanced methodologies can provide valuable experience, and further improve the feasibility and reliability of biomass certification systems



Concluding remarks (2/2)

- First time that governments actually try to set 'sustainability criteria' for a commodity! -> Implications for food products, fodder, materials etc.
 - Varying degree of concern: palm oil / soy bean oil most debated, while many agricultural residues and wood pellets are approved by (almost) all stakeholders
- => How to ensure the sustainability of biomass production for the EU? To be debated in the workshop at 16-17 h



Thank you for your attention!

- Preliminary results of this overview study available at:
www.bioenergytrade.org
- Publication in a special IEA Bioenergy Task 40 issue of Biomass & Bioenergy in 2007, currently under review





NL proposal: minimum safeguard -> stabilisation-> improvement...

1. **GHG balance** -> Chain performance (30-80%+..), currently made operational,)
2. **Land-use/competition with food**: reporting; **to be developed**.
3. **Biodiversity** -> reporting/FSC/RSPO; **to be developed**.
4. **Welfare** -> Reporting EPI; **to be developed further**.
5. **Well being** -> ILO, Social accountability standards, etc.
6. **Environment**
 - Waste; law, GPG's
 - Agrochemicals; law, GPG's (**further development**).
 - Soil quality; reporting/monitoring (**further development**).
 - Water quality & quantity; law, reporting/monitoring (**further development**).

