ANNEXES

ANNEX 1: Basic principles of an international certification system

Certification is the process whereby an independent third-party (called a certifier or certification body) assesses the quality of management in relation to a set of predetermined requirements (the standard). The certifier gives a written assurance that a product or process conforms to the requirements specified in the standard. The 'requirements' are mostly formulated as criteria that have to be fulfilled for the certification of a product or a production process (Lewandowski *et al.* 2005).

In most cases international certification systems have two major elements: (1) rules that describe needs and performance of the certification and (2) standards and accreditation procedures. Standards define the aim of certification and describe the product or production process specific requirements to be fulfilled for certification. Sustainability Standards are sets of criteria and indicators that describe the requirements a sustainable product or process has to fulfil (Lewandowski *et al.* 2005).

To use criteria for the formulation of a certification standard they have to be operationalized and measurable. For this purpose, indicators and verifiers are used. Indicators are measurable parameters, which characterized a system by reduction of complexity and integration of information. A verifier is defined as data or information that enhances the specificity or the ease of assessment of an indicator. Verifiers are needed for indicator assessment and the control of the fulfilment of sustainability criteria (Lewandowski *et al.* 2005). Indicators can be management rules or procedure descriptions. Management rules describe a sustainable production process by describing which measures are allowed or prohibited and how these measures have to be performed. Similar to management rules, procedure descriptions give clear guidelines. Procedure descriptions give guidelines on how a certain process has to be performed on a whole process chain. This 'track-and-trace system' ensures traceability of the product. The main element here is an elaborated reporting system covering all steps of the chain. This is also called a Chain of Custody (Lewandowski *et al.* 2005).

A chain of custody contains as fundamental elements a mechanism for tracing materials within an organization and a mechanism for tracing materials between organizations in the supply chain. The basis for a chain of custody approach is to implement and verify control mechanisms for each organisation in the chain. In order to implement a chain of custody, an organization needs to put in place several procedures, covering requirement for documented procedures, processing, system records, etc (ProForest May 2006).

ANNEX 2: Overview of inclusion / exclusion biomass criteria of major certification schemes for green electricity

Table: Overview of inclusion / exclusion biomass criteria of major certification schemes for green electricity[1] (Oehme 2006)

Green Label	EUGENE	Ecolabel UZ 46	Bra Miljövel	Ecoenergia	Milieu-keur	Green Power	Green-e	Environ-mental Choice	Gruener Strom Label	Ok-power	Nature-made basic	Nature-made star[2]
Version		2005	2002	2000	2005	2004	2004	2003	2001	2004	2005	
Country	Europe	Austria	Sweden	Finland	Nether-lands	Australia	Parts USA	Canada	Germany	Germany	Switzer-land	Switzer-land
Including description on eligible biomass sources[3]:												
Energy crops	X	X	X		X	X	X	X	X	X		
Forestry	X	X	X	X		X						
Products from biomass[4]		X		X								
Wood residues	X	X		X		X	X	X	X			
Biogas or liquid fuel		X	X	X				X				
Agriculture & agricultural residues	X	X	X	X			X	X				
Including criteria / guidelines on[5]:												
GMO			X								X	
Origin biomass fuel	X		X	X		X		X	X	X		X
Agriculture / soil	X		X	X	X			X		X	X	X
Wood residues[6]		X					X	X		X		
Process: Co-generation	X				X	X	X	X		X		
Process: Co-firing	X		X	X						X		
Auxiliary energy			X	X								

[1] This table only indicates the inclusion / exclusion of certain criteria in certification schemes. It does not provide information about the level of detail of these criteria.
[2] Nature made star is an additional component on Nature made basic
[3] Biomass sources from waste, landfill pits, sewage gas and industrial sources are not included in this table
[4] Products from biomass: i.e. pellets, chips, etc.
[5] Gruener Strom Label and Ok-power have included explicitly named exclusions, i.e. not separated municipal waste
[6] Including waste wood

ANNEX 3: Policy developments and legislation on biofuels and biomass production in various countries in the world (a selection)

Table: Policy developments and legislation on biofuels and biomass production in various countries in the world (a selection):

Country	Policies, legislation and initiatives
USA	In the US, initiatives are mostly oriented towards ethanol. Mandatory use of biofuels under Energy Bill. Specific blends (B2, B5, etc) are being implemented at state levels. Tax credit higher for vegetable oils than recycled fats and oils (Reca *et al.* 2006).
Argentina	Passed legislation in April 2006. 2% biodiesel and 5% ethanol blending requirement by 2010. Biodiesel initiative focuses on soybean oil (Reca *et al.* 2006).
Malaysia	A national Biofuel policy was released in 2005, and the Biofuels Act is expected to pass in mid 2006 (Reca *et al.* 2006). The country is planning a mandatory blend of mineral diesel with 5% biodiesel from palm oil starting in 2008 (Zarrilli 2006).
Indonesia	Planning legislation and looking into incentives. Blending of 10% biodiesel already allowed (Reca *et al.* 2006).
Thailand	Established National Biofuels Committee responsible for all policy formulation and project implementation concerning biofuels. Government has launched a strategic plan to replace national diesel demand with a blend of diesel and 10% biodiesel by 2012 (Zarrilli 2006)
Philippines	Working on biodiesel initiatives based on coconut oil. Primarily for domestic use (Reca *et al.* 2006). Congress passed a bill in November 2005, which requires all gasoline, sold to have 5% ethanol content within 2 years (Zarrilli 2006).
India	In 2003, government mandated the use of 5% ethanol blend in gasoline in nine of its sugar-rich states. Pursuing a National Biodiesel Mission (NBM), which aims at replacing 20% of the country's diesel requirements with biodiesel by 2020 (Zarrilli 2006). Preparing legislation in biodiesel and support to cultivation and commercial activities, based on Jatropha (Reca *et al.* 2006)
China	Launched the Biofuels Initiative in 2002 as pilot project to create infrastructure and potential in selected provinces. The Renewable Energy Law (a framework law) came into force in January 2006 and includes a "punishment and reward" system (Zarrilli 2006).
Malawi	Federal department sponsors several programs related to biofuels (Zarrilli 2006).

ANNEX 4: Key issues used in the development of sustainability principles from the Dutch government

The sustainability criteria and principles, developed by the project group (Cramer *et al.* 2006), were based on the following set of key starting points:

- Development of a long-term vision about biomass sustainability (2020-2040)
- Based on this vision, development of concrete, measure biomass sustainability criteria on the short term;
- Development of a universal framework of sustainability criteria, with the emphasis on non-food applications (chemical industry, fuels, energy production);
- The sustainability criteria and indicators developed could also be of importance to judge food production on sustainability aspects. It is acknowledged that biomass, feed, fuel and fodder can barely be regarded separately;
- Compliance with international treaties, EU regulations, WTO rules etc;
- Development of minimum sustainability demands for short term, and stricter criteria on the longer term;
- Sustainability criteria are valid for both biomass energy crops and biomass crops, and both applicable for imported biomass and domestic biomass.

ANNEX 5: CRITERIA ECOLOGO
(NRC 2005), (ECP 2006)

Electricity - Renewable Low-impact

Certification Criteria: All Sources

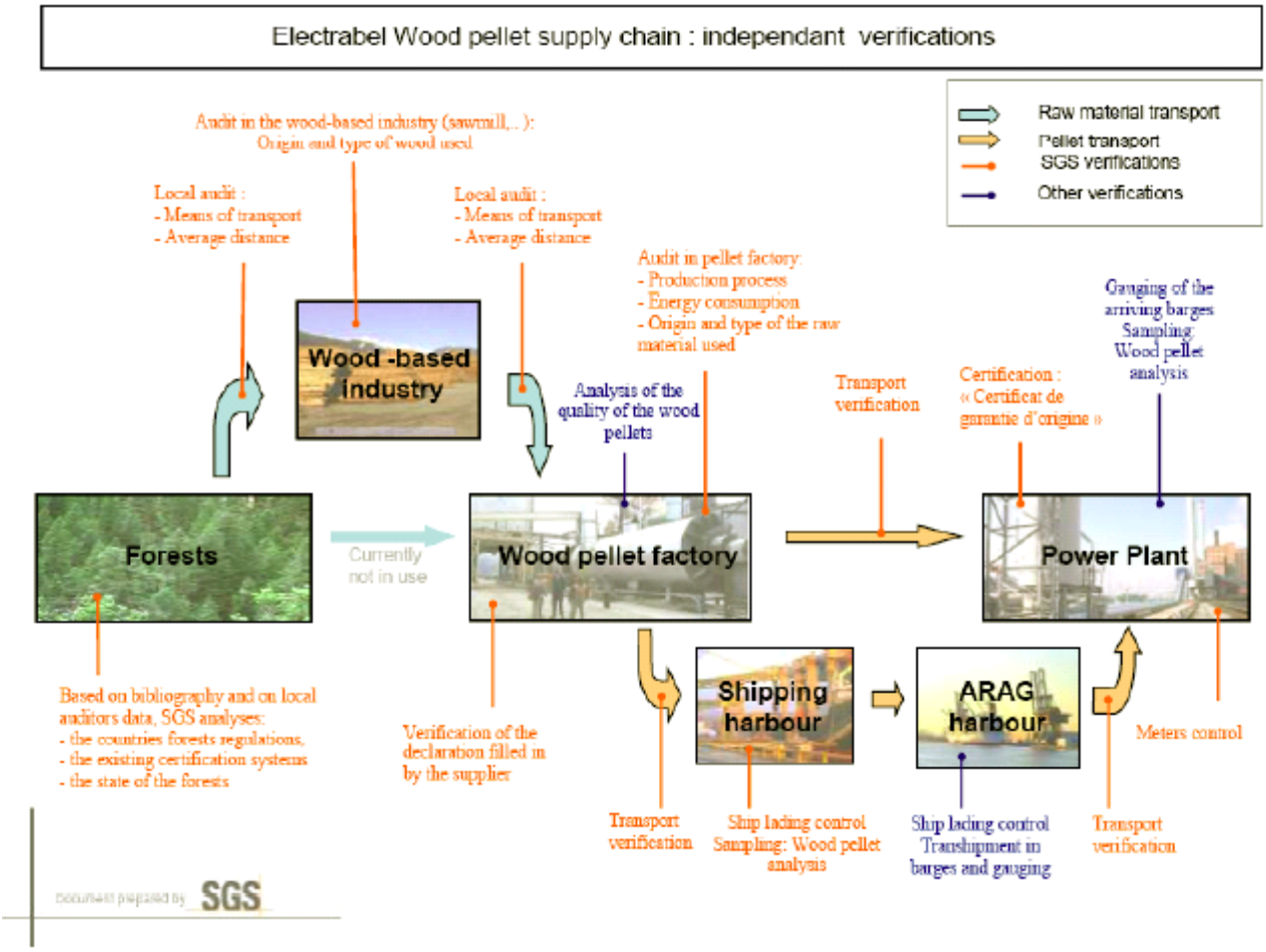
- The facility must be operating, reliable, non-temporary and practical.
- During project planning and development, appropriate consultation with communities and stakeholders must have occurred, and prior or conflicting land use, biodiversity losses and scenic, recreational and cultural values must have been addressed.
- No adverse impacts can be created for any species recognized as endangered or threatened.
- Supplementary non-renewable fuels must not be used in more than 2.00% of the fuel heat input required for generation.
- Sales levels of ECP-certified electricity must not exceed production/supply levels.

Certification Criteria: Specific Sources (in addition to that listed above)

- Biomass (use only wood wastes, agricultural wastes and/or dedicated energy crops; requirements for rates of harvest and environmental management systems/practices; and, maximum levels for emissions of air pollutants)
- Biogas (maximum levels for emissions of air pollutants; and leachate management)
- Other technologies that use media such as hydrogen or compressed air to control, store and/or convert renewable energy Geothermal technologies

ANNEX 6: ELECTRABEL label

Figure: Independent inspections of the wood pellet supply chain operated by SGS (Didier Marchal 2006)



Questionnaire for Part 1 – sourcing and forest management for wood pellet certification

MANDATORY Mention all potential land(s) of origin of the wood	……... …… ……
INFORMATIVE Type of source certification in the considered country (ies), Forest certification systems And/or	☐ FSC (Forest Stewardship Council) ☐ PEFC (Pan European Forest Certification) ☐ CSA-SFM (Canadian Standards Association's Sustainable Forest Management) ☐ SFI (Sustainable Forest Initiative) ☐ FFCS (Finnish Forest Certification System) ☐ Approved pre-scope certificate of one of the endorsed forest management certification systems, with the intention of full certification ☐ GGLS5: Green Gold Label Forest management criteria; temporary approval
Agricultural certification systems	☐ Agricultural EUREPGAP ☐ GGLS2 –Agricultural Source Criteria ☐ Agricultural products grown in the EU
MANDATORY Source of the wood	☐ Residues originating from saw mills ☐ Saw dust ☐ Shavings ☐ others, specify …… ☐ Sanitary cuttings of forests ☐ Hard wood ☐ Soft wood ☐ Timber wood ☐ Short rotation coppices ☐ Others, specify …… …….. Average percentage of bark in mass: ……%

ANNEX 7: Principles Green Gold Label (GGL 2005)

Principle 1 Provisions relating the transport and the use of certificates and prescribed indications

- Criteria: 1.1. Material entering the Green Gold Label system or material transported between GGL operators may only be transported in a manner that prevents substitution or pollution of the contents. An invoice of the shipment or transport documents (such as a bill of lading etc) must be provided. Also, proof of cleanliness for the means of transport, documents claiming GGL (supplier, producer or seller claim) and, where applicable, documents supporting a GGL claim. Thirdly, if applicable, documents shall be available claiming the product is covered under GGL approved agricultural certification systems or approved forest management certification systems.
    - 1.1a the invoice of the shipment or transport documents shall state the name and address of the operator and the sender or receiver and the name and quantity/volume of the shipped product.
    - 1.1b. Documents claiming GGL1 must have a format prescribed by the GGL Foundation. All the documents, including documents supporting the GGL claim shall state: The name and address of the operator, The certificate number and program name supporting the GGL claim on the material, A signature of the entity claiming GGL.
    - 1.1c. Documents claiming that the product is covered under GGL approved agricultural certification systems or approved forest management certification systems. These shall conform to the following: This documentation shall be in the format prescribed by the certification system; this documentation shall be traceable to the material that is transported.
    - 1.1d. Proof of cleanliness can be laid down, for example with a certificate of cleanliness.

Principle 2 Control of incoming products

- Criteria 2.1. Upon receipt of GGL claimed (half finished) products or GGL claimed raw materials, the participating operator is obliged to inspect:
- The accompanying documents of the packaging or container and whether the particulars are referred to in principle 1 have been provided
    - General condition and/or quality of the product
    - Quantity of the material
    - Contaminations with GGL prohibited materials
- The outcome of this inspection must explicitly be stated in the records of the participating operator. If this inspection raises doubts about whether the product involved complies with the above, the processing of this product may not be commenced until conformity is proven. Until this time the product may not be discharged, except when it is discharged and handled separately.
- 2.2. The producer is obliged to collect and verify: a written supplier's claim from suppliers of Green Gold Label raw material (or products) entering the Green Gold Label Program (a so-called supplier's claim3 with reference to the contact, shipment and/or contract numbers), or documents claiming the product is covered under GGL approved agricultural certification systems or approved forest management certification systems.
- 2.3. The seller is obliged to collect and verify: a written producer's claim from producers of Green Gold Label products (or raw material) entering the Green Gold Label Program (a so-called producer's claim with reference to the contact, shipment and/or contract numbers), or documents claiming the product is covered under GGL approved agricultural certification systems or approved forest management certification systems.

- 2.4. Operators acting, as sellers are obliged to collect completed and signed GGL system plans from their production units. The operators have to maintain a system to ensure that the system plans of producer and seller are available and up to date at all times.
- 2.5. In order to keep track of the amount of Green Gold Label (raw) material supplied the operator has to monitor the amounts of Green Gold Label (raw) material supplied. In case the amount of (raw) material supplied deviates from the amount stated in the producer's claim or supplier's claim, the operator is obliged to verify this deviation with the sender and record it.
- 2.6. The participating operator is obliged to keep the original documents for at least two years, which confirm the (GGL) status of the purchased product: e.g. documents that accompanied the products, and copies of certificates (issued by an accredited certification body).

Principle 3 Administration

- Criteria 3.1. The participating operator shall ensure that it is possible for the inspector to:
    - 3.1a. Trace the source, origin, nature and quantities as also the use of all material, delivered to the distinctive unit.
    - 3.1b. Trace the source, origin, nature, quantities and destinations as also the use of all products, which have left a distinctive unit.
    - 3.1c check the origin, nature and quantities, additives and substances for manufacturing and the composition of the prepared Green Gold material. This should include the calculation of the ratio between material originating from certified and non-certified sources and the verification of purchased quantities and sources at the participating suppliers of raw material
- 3.2. The participating operator is obliged to keep records of the nature, quantities, origins and/or destinations (including name and address of the buyers concerned and the dates of delivery) of all products received and delivered.
- 3.3. The participating operator is obliged to keep records of the Green Gold Label claims made on shipments, as well as copies of these Green Gold Label claims. In case of the producer this includes the supplier's claims, the producer's claims and in case of the seller the producer's claims and the seller's claims.
- 3.4 The participating operator is obliged to perform and keep records of a mass balance calculation (as described under principle 5).

Principle 4 Quality control

- Criteria 4.1. Operators are obliged to maintain a documented GGL system plan that describes the processes including the point of risks and the flow diagram.
- 4.2. A system ensuring product quality is developed and implemented by which all raw materials, all half (made) products and all products, before, during and after the processing and preparing can be traced and identified. All points of risk where pollution with foreign material or mixing with products polluted with foreign materials, can occur during the process of storage and processing, are identified and documented. Preventive measures are documented and taken accordingly.
- 4.3. No additives may be used that are prohibited by Green Gold Label program. Additives of vegetable origin used as binding compounds or for other purposes are allowed. Reports of the chemical properties of the additives have to be available on request.
- 4.4 When (half made) products or raw materials that contain substances which are prohibited by the Green Gold Label Standards are processed, handled or stored:
    - 4.4a. These materials must have separate locations for the storage of polluted material (prior to and after having been processed);
    - 4.4b. A batch of these materials must be processed at once and without interruptions and be separated physically or in time from equivalent treatments relating to non-certified (polluted) product;

  - 4.4c. Measures must be taken to ensure identification of the lots and to avoid contamination with products, which have not been obtained in accordance with the provisions, as lay down in or pursuant to the articles.
  - 4.4d. Processing and storage must be organized and executed in such way that pollution with non-vegetable materials or prohibited materials8 is prevented.
- 4.5. Transport used for outgoing GGL products shall be clean to avoid mixture or contamination with products that have not been obtained in accordance with the provisions. A certificate of cleanliness or record shall be made for all outgoing transports that it was checked and found clean. When dedicated transport is used, a written declaration from the transport company is sufficient. The declaration has to state that the trucks and vessels are only used the transport of material from vegetable origin only. The trucks have to be checked randomly by the supplier. Reports of the check have to be available on request.
- 4.6. Specifications of raw materials, (half finished) products shall be recorded and available to the relevant personnel.
- 4.7 Any external storage shall be considered a part of the facility, and rules applicable to the facility shall be applicable to the storage.

Principle 5 Calculation amount of Green Gold Label material vs. Non-Green Gold Label material with the use of the mass balance calculation

- 5.1. In order to become part of the Green Gold Label Program, by volume or weight, a part of the material produced has to be from a GGL approved or certified origin and 100% free from (non-vegetable) pollutions. The total annual amount of Green Gold Label material is derived from a mass balance calculation. (A/B) C=D
  - A= Annual input of claimed GGL raw material in metric ton or m^3.
  - B= Total annual input raw material in metric ton or m^3, including the material that might be used up in the process of the production.
  - C= Total annual amount produced end product,
  - D= Annual amount of end product on which GGL can be claimed.
- The fact that the water content is a constant factor in A and B is taken into account. Green Gold Label may be claimed for shipments, as long as the total amount of material delivered during the year on which the Green Gold Label is claimed, is smaller than or equal to the total amount of end product on which GGL can be claimed (D) as calculated with the formula above. No false claim may be made or claims that would increase the total amount of Green Gold Label claimed material above the annual amount of end product on which GGL can be claimed (D). The Green Gold Label claims, also known as producer's claims, have to be recorded. Data will be checked during the annual audit and must be in conformity with the contract. Deviations of > 5% will result in non-conformity and may lead to exclusion from the Green Gold Label Program.

Principle 6 Processing facility and equipment

- 6.1 The processing facility and its equipment must be designed and operated so as to be in keeping with applicable national legislation regarding environmental principles and practices.
- 6.2 as stated in 4, procedures should be implemented to prevent possible confusion and/or co-mingling of polluted and non-polluted material.
- 6.3. Measures must be taken in the processing facility and its equipment to avoid injuries to head, face, hearing, legs, feet and hands. Dust and/or hazardous fumes must be extracted from the working space and filtered before exhaustion.
- 6.4 A safety plan has to be documented and the described safety measures shall be implemented.
- 6.5 Personal protection equipment must be made available for personnel by the employer

ANNEX 8: Southern African NGO position on Biofuels
From: (Sugrue *et al.* 2006)

Position related to Food for Fuel:

- That the current productive land is left unchanged and not subverted to the growing of feedstock for biofuels unless it utilizes a surplus that is stable and consistent within climate variability's. A biofuels strategy should therefore focus on land that is underutilized and on crops that do not require arable land or vast tracts of virgin land to be cleared

Position related to water:

- That the biofuels industry is not allowed to expand irrigated lands beyond existing capacity, but may be developed for rain fed areas only – and here only after a careful study of impacts in the remainder of the concerned catchments. Processes, including agriculture, must be water conserving and efficient and practice the other and it is sensitive to drought during its growing three R's: Reduction, Reuse and Recycling. Catchments management agencies should be capacitated to deal with water management issues around the entire biofuels life cycle. Research into the impacts of various crops in particular catchments is urgently needed on a more comprehensive basis to determine the projected outcome of intensive growing.

Position related to energy balances:

- No crop with an energy balance of less than 1:3 should be considered as this will allow for poorer than expected crop yields from drought conditions and a greater climate and energy security benefit for the nation

Position related to Life Cycle Analysis (LCA):

- A full LCA approach should be taken when dealing with the allocation of permits for the biofuels industry

Position related to Genetically Modified Crops:

- GMOs should not be used in the process of making biofuels

Position related to land use:

- Capacity building of land redistribution beneficiaries and government intervention to protect the rights of indigenous ownership of land and crops. Further, development of best practice biofuels projects with land redistribution beneficiaries so as to harness new income opportunities that also serve to improve the land.

Position related to farming practices:

- Like all crops, energy crops should be grown through Conservation farming techniques and intercropping practices.

Position related to crop types:

- Favour a hierarchical approach, with waste first, followed by high yield low input, low degrading crop types, such as Algae and finally perennial crops. Annual crops should not be supported as energy crops with particular reference to those that exert a high toll on the land. Crops that yield the greatest diversity of use within a rural local economy should receive preference.

Position related to environmental quality and health:

- A full EIA should be required for all medium- to large scale processing plants to determine the extent of pollution plumes and potential waste streams and how they can be managed. For small scale and micro systems an appropriate level intervention should be assessed and developed with a concurrent capacity building and training programme.

Position related to biodiversity:

- Maintaining biodiversity is an important part of protecting the global ecosystem that humans rely on and so care must be taken to develop processes that enable sustainable utilization of protected and even unprotected conservation-worthy habitats and ecosystems.

The paper also expresses its position related to governance and regulation, taxes and incentives, targets and institutional arrangements.

ANNEX 9: Sustainability criteria and indicators for bioenergy developed by FBOMS

Not included in this table are the prerequisites given (e.g. financing, training) to accomplish these criteria. The table also provides information on possible indicators. More information on http://www.foei.org/publications/pdfs/bioenergy.pdf (Moret *et al.* 2006)

Criteria	Desirable	Undesirable
Social accountability	Local acceptance of who and what the energy is for; electrical generation for isolated communities	Energy for internal use by energy-intensive industries
Participation in decision making	Both beneficiaries and affected populations have influence in decision-making	Public consultations with no commitment to consider demands and with no influence on decisions
Type of management	Cooperatives, community associations	Traditional agribusiness, contracts involving integrated production systems that create unfair working and business conditions
Job creation and income generation	Family agriculture; jobs for local population, creation of conditions for youth employment	Capital intensive agribusiness, concentration on income and land ownership, local population involved only in low-skilled jobs
Social inclusion	Capacity building and training in technology; involvement of community surrounding the project; social support to the families involved; leads to improved quality of life of women and youth	Absence of community involvement; disruption of traditional patterns of subsistence and culture
Gender equality	Recognition of women and key actors in all stages of decision-making process	
Regulatory compliance	Compliance with municipal, state and national legislation as well as international agreements	
Financing	Rural credit for family farming	Financing for intensive agribusiness
Land use	Comply with economic / ecological zoning; region classified as suitable by strategic environmental assessment; defined limits for occupation of biomes; diversification and decentralization of economic activities	Occupation of inappropriate areas; overexploitation of ecosystems; extreme territorial specialization
Origin of biomass	Use of plant residues; products of agro-ecology and family agriculture	Monocultures; transgenics; alteration of natural biomes
Environmental management	Use of best available practices; diversity of crops; agroforestry systems; agroecology; permaculture; minimization or elimination of pesticide use; reduction of soil loss	Green deserts; soil degradation and loss; environmental contamination; forms of production using extremely dangerous and persistent pesticides
Organization of production / labour relations	Cooperatives; family agriculture	Contracts involving integrated production systems
Food security	Crop diversity, agroforestry and / or companion planting	Monoculture production zones
Technology	Decentralized generation and production; technology appropriation by local population; new technologies capable of reducing pressure of energy production on ecosystems; horizontal transfer (between communities) of technologies and knowledge; contribution to diversification of energy matrix	
Use of bioenergy	Creating more efficient transport systems; promotion of energy efficiency	

ANNEX 10: Core sustainability standards for bio-energy as proposed by WWF Germany
Reference: (Fritsche *et al.* 2006)

Clarification of land ownership

- Land ownership should be equitable, and land-tenure conflicts should be avoided. This requires clearly defined, documented and legally established tenure use rights.
- To avoid leakage effects, poor people should not be excluded from the land. Customary land-use rights and disputes should be identified.

Tool: conflict register might be useful in this context.

Avoiding negative impacts from bio-energy driven changes in land-use

- If land-use policies and their implementation in a given country or region are effective in preventing negative impacts from land-use changes (e.g. by controlling access to and use of high-nature-value areas and habitats, cultural sites, etc.), the indirect effects of bioenergy developments on overall land-use will be small. In this case, bioenergy development should be concentrated on available arable land.
- If a country or region has ineffective (or no) land-use policies, negative impacts of "shifts" in land-use due to bioenergy development are possible. In this case, bioenergy crop development must be restricted to areas that are not in competition with other uses. Only then can the potential "shift" with its respective impacts be avoided.

Priority for food supply and food security

- Food security is a basic human need, which should not be compromised by bioenergy development, i.e. cultivating energy crops to the disadvantage of food crops should be avoided.

Tools: A regional risk assessment is needed which analyzes the potential impact of biomass production on the local and regional food supply

No additive negative biodiversity impacts

- Areas to be protected: a) High-nature-value areas (e.g. intact close-to-nature ecosystems, natural habitats, primary and virgin forests), land needed to maintain critical population levels of species in natural surroundings, and relevant migration corridors must be excluded from bioenergy cropping areas, b) Adequate buffer zones must be maintained for habitats of rare, threatened or endangered species, as well as for land adjacent to areas needing protection.

Production practices:

- Management plans and farming operations must ensure the protection of high-nature-value farming systems (e.g. on grass land or small patterned traditional farming systems) as well as nature-oriented forestry.
- To preserve genetic diversity, a minimum number of crop species and varieties, as well as structural diversity within the bioenergy cropping area must be demonstrated in management plans.
- As a precautionary measure, the use of genetically modified organisms (GMO) as bioenergy crops should be excluded, since they could have adverse environmental impacts.
- Appropriate fire-protection strategies are needed, and the use of fire to clear or prepare land for production should only be permitted if it is known to be the preferred ecological option.
- Alien species should only be cultivated under conditions of careful control and monitoring; effects on wildlife species should be blocked.

Tools: digital mapping of relevant areas for compliance of bioenergy operations with standards

Minimization of GHG emissions

- A maximum life cycle GHG balance of bioenergy cultivation of 30 kg/GJ must be demonstrated. This limit represents a 67% reduction on the life-cycle GHG emissions from (unprocessed) crude-oil combustion.
- The processing of bioenergy crops – especially to biofuels – must demonstrate a minimum conversion efficiency of 67%, taking into account by-products for which proof of use must be given. A maximum direct GHG emission factor of 60-kg/GJ inputs should apply for the process energy.

Tools: GHG accounting tool, GHG emission limits for final bio-based products in future stages, a simplified approach to GHG accounting should be developed for the small-scale farming of bioenergy crops using rural-systems to avoid excessive compliance costs.

Minimization of soil erosion and degradation

- The exclusion (or significant restriction) of bioenergy crops requiring intense tilling and below-surface harvesting (e.g. sugar beets);
- Maximum (soil-specific) slope limits for bioenergy crop cultivation;
- Maximum extraction rates for agricultural and forestry residues (specific for soil and crop/crop rotation);
- Acceptable removal levels for agro- and forestry residues, so that humus and organic C soil content is not negatively affected;
- Use of farming and harvesting practices that reduce erosion risks and adverse soil compaction (irrigation schemes, harvesting equipment);
- Irrigation schemes to prevent salinization: Exclusion of crops and cropping systems for which such schemes are not applicable (specific to soil type and semi-dry/dry regions).

Tools: a qualitative standard on the toxicity and biodegradability of agrochemicals is needed (e.g. a positive list of chemicals and user guidelines); non-chemical pest treatment and organic fertilizers should be preferred.

Minimization of water use and avoidance of water contamination

- Optimized farming systems requiring low water input should be used, e.g. agro-forestry systems in dry regions
- Critical irrigation needs in semi-dry and dry regions should be avoided by applying water management plans (long-term strategies and implementation program) providing a sustainable and efficient water supply for irrigation;
- The quality and availability of surface and ground water must be maintained, avoiding the negative impacts of agrochemical use (by timing and quantity of application);
- No untreated sewage water for irrigation;
- Re-use of treated wastewater must be part of the agricultural management system.

Improvement of labour conditions and worker rights

- The supply systems for bioenergy – i.e. the cultivation of bioenergy crops, the collection of biogenic residues and wastes and their respective downstream processing – must comply with ILO standards on workers‘ safety, workers‘ rights, wage policies, child labour, seasonal workers’ conditions, and working hours during harvest time.

Ensuring a share of proceeds

- In addition, a standard on income distribution and poverty-reduction issues (share of proceeds) seems necessary, although this can only be discussed in detail with respect to regional and local conditions and project specifics.

Avoiding human health impacts

- This is related to agreements on workers' rights: the ILO Convention regulates occupational-health impacts. Important indicators include first aid kits, medical attendance and regular information about the dangers and risks of the work. They help prevent accidents and provide a safe and healthy work environment.

Summary of sustainable biomass standards:

Standard	Scope	Regional Adjustment	Time Horizon
Clarification of land ownership	regional/local	no	short-to-medium term
Avoiding negative impacts from bioenergy-driven changes in land use	global	no	short term
Priority for food supply and food security	regional/local	yes	medium-to-long term
No additional negative biodiversity impacts	regional/local	yes	medium-to-long term
Minimization of greenhouse gas emissions	global	no	short term
Minimization of soil erosion and degradation	regional/local	yes	short-to-medium term
Minimization of water use and avoidance of water contamination	regional/local	yes	short-to-medium term
Improvement of labor conditions and worker rights	regional/local	no	short term
Ensuring a share of proceeds	regional/local	no	short term
Avoiding human health impacts	regional/local	no	medium-to-long term

ANNEX 11: Sustainability principles Dutch NGOs
(Richert *et al.* 2006)

Do no harm principles:

1. No violating of human rights, land rights, cultural rights or the right to food security (directly or indirectly) arise from the production and processing of energy crops;
2. Only the smallest possible burden of economic growth falls on the shoulders of vulnerable social groups;
3. Production of energy crops does not contribute (directly or indirectly) to a decrease of biodiversity on ecosystem level;
4. Energy crop production is based on an explicit production system that guarantees sustainable use of soil and water resources.
5. In compliance with the precautionary principle the use of GM technology is currently not allowed during energy crop production.

Do more good principles:

6. The production of energy crops is demonstrated to contribute to socio-economic development in the production region within a few years;
7. Local processing of the energy crop is actively stimulated, particularly if the local economy is highly dependent of this crop;
8. Revenues generated as a result of energy crop production shall demonstrated to be invested in the improvement of social well being and/or the quality of the environment;
9. The production of energy crops increases the ecological quality of the production area, by taking degraded grounds into production.

Enabling governance context principles:

10. The producing country has an acceptable level of good governance;
11. There is sufficient guarantee that the production of energy crops remains within national legal boundaries and complies to relevant international treaties;
12. There is a decent and effectively implemented land use planning;
13. The local population and indigenous people have sufficient control over their situation concerning changes resulting from energy crop production;
14. The production country has signed and ratified all international conventions that are relevant according to the formulated principles.

ANNEX 12: Summary IATP Sustainable Biomass Production Principles & Practices

Reference: (Kleinschmidt 2006)

The principles were developed through a broad stakeholder dialogue conducted by the Institute for Agriculture and Trade Policy in 2003. The associated practices are examples of how farmers can meet the respective principles in their crop production in accordance with IATP Sustainable Biomass Standards.

1. **Strengthening the Soil**
2. **Protecting the air and water**
   Associated practices:
   - Crop rotations and cover cropping
   - Minimized tillage and tillage timing to protect soil quality/ reduce compaction
   - Erosion control structures (terraces, grassed waterways, etc.)
   - Continuous living cover wherever possible on farm fields to prevent erosion
   - Buffer strips for water/soil retention and wildlife habitat
   - Incorporation of organic materials, "green manure" crops and other natural soil
   - Eliminating and minimizing herbicide/pesticide use through IPM, biological and management practices, and other non-chemical approaches
   - Prohibition of the most toxic (carcinogenic, endocrine disrupting, mutagenic)
3. **Sound Nutrient Management**
   Associated practices:
   - Applying nutrients based upon regular soil testing, legume crediting and recommended agronomic rates
   - Maximize use of green manure crops, compost, manure and other non-commercial nutrients
   - Utilize practices to reduce runoff and leaching of nutrients
   - Prohibit use of industrial sludge and other waste products
4. **Energy efficiency and increased use of renewable resources**
   Associated practices:
   Identify and optimize on-farm energy consumption
   - Wherever possible, utilize renewable energy resources (wind, solar, biofuels, biomass)
   - Reducing tillage and unnecessary trips across field
   - Efficient irrigation management
   - Keeping machinery in good working order
   - Reducing dependence on commercial (i.e. manufactured) fertilizers/inputs
5. **Promoting biological diversity and nature**
   Associated practices:
   - Prohibit use of GMO varieties
   - Maximizing use of perennials and crop rotations
   - Where possible, using native varieties/species
   - Protecting endangered or imperilled plants/animals by providing habitat, corridors or altering farming practices
   - Creating and implementing conservation plans to promote wildlife habitat and biological diversity on farm
6. **Respecting social and cultural heritage**
   Associated practices: Actively work to protect social and cultural heritage sites (burial sites, historical monuments and locations, etc.)

7. **Economic sustainability**
   Associated practices:
   - Assuring a fair price is received for farm products and services
   - Paying fair prices for hired labour, services and off-farm assistance
8. **Safe and healthy working conditions**
   Associated practices:
   - Machinery is maintained in safe working condition with appropriate safety guards/equipment in place
   - Potentially hazardous chemicals (pesticides, fuels, etc.) stored in safe and secure location
   - Emergency and contingency plans prepared for farm
   - Proper ventilation and safety equipment in on-farm buildings
9. **Safe packaging, transportation and storage**
   Associated practices:
   - Potentially hazardous chemicals/products are not used as additives in packaging, transport or storage
   - Energy use in storage (drying/etc.) is reduced as much as possible
   - Transportation distance of farm products is reduced whenever possible to eliminate excessive energy use, costs and GHG emissions
10. **Stakeholder participation, transparency and simplicity**
    Associated practices:
    - Open and simple record-keeping for farm practices and operations
    - Willingness to share (non-confidential) information with other stakeholders

ANNEX 13: Sustainability Assessment Framework

A further elucidation mentioned in the table is not included in this annex.
(Lange *et al.* 2006)

Issue	Points of attention:
Social Issues	
Land Use	Land rights local people, with particular attention to vulnerable or marginalized groups e.g. women, indigenous people Competition with food production and demands, both at local and national level Impact on vulnerable populations (socio-economic value of land for them) Respecting cultural / religious traditions Competition for land with local people resulting from immigrated labour
Working conditions	Child labour, Occupational health and safety Forced labour, Lived wage Freedom of association and the right to collective bargaining Working hours, Discrimination in employment (gender, race, colour etc) Seasonal workers, Gender
Training	Basic requirements of occupational health and safety Training on relevant health protection and first aid Environmental training of employees Job instructions, on the job training
Living conditions	Adequate housing provided Access to clean water and sanitary facilities Access to health care and medication Providing education to children
Environmental issues	
Land Use	Land clearance practices (slash and burn, deforestation) Biodiversity rich versus degraded areas Construction of infrastructure Rehabilitation of land Effects of shifting land use patterns on areas of environmental importance Migration Effects
Biodiversity	Loss of / beneficial or adverse impact on biodiversity Disturbance of flora, fauna, and ecological processes CO2 balance in supply chain Improving local and regional biodiversity by upgrading areas Invasive species Preservation of habitats in production areas Use of biodiversity friendly non-chemical methods of pest management
Land degradation	Use of chemical pesticides and fertilizers Emissions to water, Emissions to air, Emissions to soil, Soil fertility, Prevention of erosion Impact on water sources (water use)
Waste	Minimizing waste, Recycling waste Disposal of waste
Energy	Clean versus polluted biomass flows Efficient use of energy during production Use of renewable sources during production Sustainable harvest rates
Economic Issues	
Land Use	Caloric value and yield of potential flow: GJ per hectare Benefits from land use to produce energy crops for export versus value attached to land used for local food production

	Foreign ownership of land Displacement of land use as a result of biomass production
Energy	Efficiency: Net energy gained Energy crop or waste product serving as biomass (giving value as by-product?) Export potential Transfer of technology / capacity building Local energy market (to reduce dependency on fossil energy) The nature and role of local energy companies
Financial aspects	Rural economic development Capacity building: creation of jobs in producing countries Foreign currencies / investments in producing countries Actual or anticipated impact of subsidies within the European market Foreign labour running the production Remuneration for biomass flow
Governance	Compliance with national legislation Proper social and environmental management at production / processing sites Corruption Traceability Environmental impact assessment prior to activities
Political / control issues	
Governance	Policies addressing compliance with national legislation Anti-corruption measures
Participation	Stakeholder involvement when deciding on the use of land Respect for indigenous people, NGOs Respect for customary rights Division of power
Communication	Information disclosure: which information / decisions are made public Is the information accessible to indigenous / local people?

ANNEX 14: Principles and Criteria RSPO for sustainable palm oil production

Principle 1: Commitment to transparency

- Criterion 1.1 Oil palm growers and millers provide adequate information to other stakeholders on environmental, social and legal issues relevant to RSPO Criteria, in appropriate languages & forms to allow for effective participation in decision-making
- Criterion 1.2 Management documents are publicly available, except where this is prevented by commercial confidentiality or where disclosure of information would result in negative environmental or social outcomes

Principle 2: Compliance with applicable laws and regulations

- Criterion 2.1: There is compliance with all applicable local, national and ratified international laws and regulations
- Criterion 2.2: The right to use the land can be demonstrated, and is not legitimately contested by local communities with demonstrable rights.
- Criterion 2.3: Use of the land for oil palm does not diminish the legal rights, or customary rights, of other users, without their free, prior and informed consent

Principle 3: Commitment to long-term economic and financial viability

- Criterion 3.1 There is an implemented management plan that aims to achieve long-term economic and financial viability.

Principle 4: Use of appropriate best practices by growers and millers

- Criterion 4.1 Operating procedures are appropriately documented and consistently implemented and monitored.
- Criterion 4.2 Practices maintain soil fertility at, or where possible improve soil fertility to, a level that ensures optimal and sustained yield.
- Criterion 4.3 Practices minimize and control erosion and degradation of soils.
- Criterion 4.4 Practices maintain the quality and availability of surface and ground water.
- Criterion 4.5 Pests, diseases, weeds and invasive introduced species are effectively managed using appropriate Integrated Pest Management (IPM) techniques.
- Criterion 4.6 Agrochemicals are used in a way that does not endanger health or the environment. There is no prophylactic use, and where agrochemicals are used that are categorized as World Health Organization Type 1A or 1B, or are listed by the Stockholm or Rotterdam Conventions, growers are actively seeking to identify alternatives, and this is documented.
- Criterion 4.7: An occupational health and safety plan is documented, effectively communicated and implemented.
- Criterion 4.8: All staff, workers, smallholders and contractors are appropriately trained.

Principle 5: Environmental responsibility and conservation of natural resources and biodiversity

- Criterion 5.1: Aspects of plantation and mill management that have environmental impacts are identified, and plans to mitigate the negative impacts and promote the positive ones are made, implemented and monitored, to demonstrate continuous improvement.
- Criterion 5.2 The status of rare, threatened or endangered species and high conservation value habitats, if any, that exist in the plantation or that could be affected by plantation or mill management, shall be identified and their conservation taken into account in management plans and operations.
- Criterion 5.3 Waste is reduced, recycled, re-used and disposed of in an environmentally and socially responsible manner.
- Criterion 5.4 Efficiency of energy uses and use of renewable energy is maximized.

- Criterion 5.5 Use of fire for waste disposal and for preparing land for replanting is avoided except in specific situations, as identified in the ASEAN guidelines or other regional best practice.
- Criterion 5.6: Plans to reduce pollution and emissions, including greenhouse gases, are developed, implemented and monitored.

Principle 6: Responsible consideration of employees and of individuals and communities affected by growers and mills

- Criterion 6.1: Aspects of plantation and mill management that have social impacts are identified in a participatory way, and plans to mitigate the negative impacts and promote the positive ones are made, implemented and monitored, to demonstrate continuous improvement.
- Criterion 6.2 There are open and transparent methods for communication and consultation between growers and/or millers, local communities and other affected or interested parties.
- Criterion 6.3 There is a mutually agreed and documented system for dealing with complaints and grievances, which is implemented and accepted by all parties.
- Criterion 6.4: Any negotiations concerning compensation for loss of legal or customary rights are dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.
- Criterion 6.5 Pay and conditions for employees and for employees of contractors always meet at least legal or industry minimum standards and are sufficient to meet basic needs of personnel and to provide some discretionary income.
- Criterion 6.6: The employer respects the right of all personnel to form and join trade unions of their choice and to bargain collectively. Where the right to freedom of association and collective bargaining are restricted under law, the employer facilitates parallel means of independent and free association and bargaining for all such personnel.
- Criterion 6.7 Child labour is not used. Children are not exposed to hazardous working conditions. Work by children is acceptable on family farms, under adult supervision, and when not interfering with education programs.
- Criterion 6.8: The employer shall not engage in or support discrimination based on race, caste, national origin, religion, disability, gender, sexual orientation, union membership, political affiliation, or age.
- Criterion 6.9 A policy to prevent sexual harassment and all other forms of violence against women and to protect their reproductive rights is developed and applied.
- Criterion 6.10 Growers and millers deal fairly and transparently with smallholders and other local businesses.
- Criterion 6.11 Growers and millers contribute to local sustainable development wherever appropriate.

Principle 7: Responsible development of new plantings

- Criterion 7.1 A comprehensive and participatory independent social and environmental impact assessment is undertaken prior to establishing new plantings or operations, or expanding existing ones, and the results incorporated into planning, management and operations.
- Criterion 7.2 Soil surveys and topographic information are used for site planning in the establishment of new plantings, and the results are incorporated into plans and operations.
- Criterion 7.3 New plantings since November 2005 (which is the expected date of adoption of these criteria by the RSPO membership), have not replaced primary forest or any area containing one or more High Conservation Values.
- Criterion 7.4 Extensive planting on steep terrain, and/or on marginal and fragile soils, is avoided.

- Criterion 7.5 No new plantings are established on local peoples' land without their free, prior and informed consent, dealt with through a documented system that enables indigenous peoples, local communities and other stakeholders to express their views through their own representative institutions.
- Criterion 7.6 Local people are compensated for any agreed land acquisitions and relinquishment of rights, subject to their free, prior and informed consent and negotiated agreements.
- Criterion 7.7 Use of fire in the preparation of new plantings is avoided other than in specific situations, as identified in the ASEAN guidelines or other regional best practice.

Principle 8: Commitment to continuous improvement in key areas of activity

- Criterion 8.1 Growers and millers regularly monitor and review their activities and develop and implement action plans that allow demonstrable continuous improvement in key operations

ANNEX 15: WTO rules and principles

Table: Examples for product related and process related PPMs for product taxes / charges and environmental measures:

	Product related PPMs	Process related PPMs, non-product related
Example on environmental impacts (Wessels *et al*. 2001)	A process or production method affects the characteristics of a product. The product itself pollutes or degrades the environment when it is consumed or used	A process or method itself has negative impact on the environment through, e.g., the manner in which natural resources are harvested in the production phase. These production externalities do not affect the product characteristics
Example on product taxes and charges, (WTO 2006)	Product taxes and charges (i.e. when products are imported and exported) can be adjusted at the border, e.g. a domestic tax on fuel can be applied legitimately to imported fuel.	Process taxes and charges cannot be adjusted at the border, e.g. a tax on energy consumed in producing a ton of steel (thus on the production process) cannot be applied to imported steel, even if it is charged on domestically produced steel, which could make the imported steel cheaper (and presumably less environmentally friendly)

Background information regarding the use of the Code of Good Practice and eco-labelling:
An active debate took place in the 1990s regarding the use of the Code of Good Practice, especially with reference to voluntary eco-labelling schemes. The concerns, which prompted this debate, were that eco-labelling schemes, by being voluntary and often developed by private bodies[7], would, to a large extent, escape from multilaterally agreed trade obligations. Nevertheless, they would have a significant impact on trade flows (Zarrilli 2006). FSC certification was accepted with the rules of WTO only under three conditions (FASE-ES 2003). It was agreed upon that there should be an open market for all certification schemes, the market defining the best initiative. Also, there should be no political action to diminish the trade of uncertified products and the origin of the timber should not be included on the label to avoid discriminatory action against specific regions.

Background information on Appellate Body of Asbestos:
According to the Appellate Body, consumer tastes and habits must be considered in determining whether two products are 'like' and thus are entitled to 'no less favourable treatment.' If consumers differentiate products based on their production methods, or would do so if they had the information, then these products may well be "unlike" in accord with the jurisprudence. Moreover, for a regulatory measure to violate National Treatment, it must not only treat 'like' products differently, but also afford 'less favourable treatment' to the group of imported products when compared with the entire group of 'like' domestic products.

Background information classification of products: an example for Biofuels
Product classifications for biofuels are not consistently aligned with the actual consumer market in question, which leads to a number of problems with respect to consistency, certainty and non-discrimination of existing WTO obligations. The tariff classification applicable to biofuels is e.g. classified as agricultural or chemical goods and not specifically specified as fuel. The AoA, with separate rules on subsidies and tariff rates, also applies to trade in ethanol (Howse *et al.* 2006). Ethanol was also included in two product lists of potential candidate goods for 'environmental goods' by OECD and APEC (Fritsche *et al.* 2006).

[7] Note that WTO is an agreement between government members in which governments try to ensure that non-governmental organizations use the same principles

ANNEX 16: Issues related to operationalization sustainability criteria

Various organizations mention that better insight is required in some of the sustainability criteria to make them operational. Better insight is e.g. required on:

- How to design criteria and indicators according to the requirements of a region (Faaij *et al.* 2006)
- How to include avoidance of leakage effects and how to deal with it (Faaij *et al.* 2006), e.g. Sugarcane (rising prices) in Brazil might replace soy or cattle areas and, as an effect, soy and cattle areas move to degraded or newly converted lands (BothEnds 2006).
- How to include the influence of land use dynamics (Faaij *et al.* 2006)
- How to measure impacts on habitat and wildlife in economic terms (WWI 2006)
- How to ensure that biomass production does not crowd out the production of local food sources (WWI 2006)
- How to define the system boundary to be considered for sustainability criteria, e.g. an agricultural field can be sustainable but the sector as a whole might be unsustainable or create leakage effects (BothEnds 2006).
- How to deal with the fact that a positive effect for one criterion might create a negative effect for another and the question is how to deal with this (BothEnds 2006).

ANNEX 17: Information on costs for biomass certification system

A) The cost for realizing sustainability criteria

The range of these costs can vary strongly, depending on the level of sustainability of the reference situation, the costs for e.g. land and labour, the type of biomass, possible co-products, the strictness of the sustainability criteria etc. In the literature, a few examples of additional costs were found:

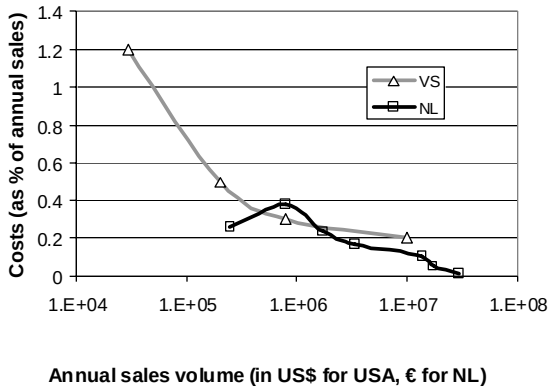
- For eucalyptus in Brazil grown under strict sustainability criteria, the additional cost may reach **44%** (14% ecological criteria, 30% social criteria) (Smeets *et al.* 2005)
- For willow production in Ukraine, the additional costs could be **14%** (3% ecological, 11% social) (Smeets *et al.* 2005).
- For organic sugar cane production, the additional costs could be around 12-15%. For (fully) sustainable ethanol production, the additional costs are estimated to lie between 24-56% (Smeets *et al.* 2005)
- Several Indian food products can be up to **65%** more expensive, to comply with criteria from systems such as EUREPGAP, ISO 9001 (FICCI 2006)
- CEFETRA (Stam 2006) indicated that by introducing extra quality / sustainability demands, the costs in the food processing industry have actually declined in the long run due to better process management.

B) The costs of certification and traceability

Johan Maris, Control Union (Maris 2006) indicated the following:

- The cost of monitoring strongly depends on the scale of production. For a production of above 10,000 ha, costs of monitoring sustainability criteria are very likely acceptable, for a size 20 ha, this is not possible. The difference in relative costs can vary over a factor of 50 (see also figure 1). For small producers, group certification is a recent trend, which may enable the certification of small-scale producers.
- The costs are strongly depending on the amount and strictness of sustainability criteria, and the required experience of the experts. For example, the more specific criteria are formulated to measure biodiversity, the more experts will be required for a field visit to measure the compliance with these criteria.

Figure: Dependency of certification costs on the annual turnover: cost of certification of organic products in the Netherlands (Control-Union 2006) and in the US (Graf *et al.* 1999).



As a rule of thumb, an FSC-inspection may be about 5 times as expensive as a normal inspection based on ISO norms.

Overview sustainability criteria and certification cost of Finish woods

Based on FFCS-criteria, (Malmi 2000) made an inventory of the costs for measures to comply with sustainability criteria and costs of certification (in €/ha). It was estimated how large these costs are compared to the total price of pulpwood and round wood in Finland by using these data and Finish forestry statistics. We emphasize that these are rough estimates, only suitable to indicate the order of magnitude of the different cost items compared to the main product.

Table: Comparison of costs of a) en b) for Finnish forestry, based on (Malmi 2000) and Finnish Forestry statistics (Metla 2006)

Product price "at the roadside"	a) Costs for measures to comply with Finnish FFCS criteria as percentage of the price of the main product	b) Costs for certification as percentage of the price of the main product
20 €/m^3 (pulpwood lower border)	20% (4.1 €/m^3)	0.3% (0.06 €/m^3)
50 €/m3 (round wood)	8% (4.1 €/m^3)	0.12% (0.06 €/m^3)

Based on the data presented above, it can be concluded that the cost for complying with (strict) sustainability criteria can be substantial, a range of 8-65% was found in literature, though incidentally also a slight cost reduction was reported. The height of the costs is strongly related to the scale of operation and the number and strictness of sustainability criteria.

Costs for certification and chain-of-custody are (in case of large-scale operations) much lower: Certification costs are 0.12 - 0.3% additional costs for FFCS/PECS certification of Finnish forestry and <0.1 - 1.2% for organic products in the Netherlands and the US. Next to economies of scale, again the number and strictness of sustainability criteria influence the cost. Finally, it should be remarked that in several cases, NGOs have indicated that the frequency of field visits is often too low. If stricter monitoring is required, this will also have an impact on certification costs

Costs are also greatly dependent on the number of sustainability criteria and the expertise required, e.g. an FSC-inspection will roughly cost about five times as much as an inspection for ISO standards. Estimations of costs amount to between 0.1 - 1% of the overall costs of the main product, largely depending on the scale.

References in ANNEX:

BothEnds (2006). Workshop on Dutch import of biomass - producing countries' point of view on the sustainability of biomass exports, Amsterdam.

Control-Union (2006). Tariff paper 2006: Tariffs for companies taking part in the certification programme Organic Production in the Netherlands.

Cramer and E. Wissema (2006). Criteria for sustainable biomass production Netherlands, Projectgroep Duurzame Productie van Biomassa.

Didier Marchal (2006). Efficient trading of biomass fuels and analysis of fuel supply chains and business models for market actors by networking, country report Belgium, IEA Task 40. Current situation and future trends in biomass fuel trade in Europe, EUBIONET II, CRAGx, Loborelec.

ECP. (2006). "Environmental Choice Program, Products and Criteria."

Faaij and M. Junginger (2006). Opportunities and barriers for sustainable international bio-energy trade: towards a strategic advice of IEA task 40. Utrecht, Copernicus Institute for Sustainable Development and Innovation, Department of Science and Technology, Utrecht University and IEA Task 40 members and affiliated parties.

FASE-ES (2003). Where the trees are a desert - Stories from the ground. Amsterdam.

FICCI (2006). FICCI Survey - High cost of standard compliance making exports to EU difficult.

Fritsche and K. Hunecke (2006). Sustainability standards for bioenergy. Darmstadt, Oko institut, commissioned by WWF Germany.

GGL (2005). GGLS1 – Chain of Custody and Processing, Green Gold Label Program version 2005.5, Control Union World Group.

Graf and Lohr (1999). Analysis of certification program costs. Working Paper, Fund for Rural America Project, Market Development for Organic Agriculture Products, Grant No 97-36200-5.

Howse and P. van Bork (2006). WTO Disciplines and Biofuels: Opportunities and Constraints in the creation of a Global Marketplace, IPC Discussion Paper. Washington DC, International Food and Agricultural Trade Policy Council: 44.

Kleinschmidt (2006). IATP Sustainable biomass production principles and practices. Minneapolis, USA, Rural Communities Program, Institute for Agriculture and Trade Policy.

Lange and others (2006). Dutch import of biomass - producing countries' point of view on the sustainability of biomass exports. CREM report number 06.885. Amsterdam, Both ENDS, Stichting Natuur en Milieu, COS Nederland, Núcleo Amigos da Terra (NAT), Vitae Civilis Institute, Biodiversity Foundation Kehati, Sawit Watch, Social Economic Institute (INRISE), Bogor Agricultural University, Media Indonesia Group-Daily Research and Development, Ms Gwynne Foster CREM BV,.

Lewandowski and Faaij (2005). "Steps towards the development of a certification system for sustainable bio-energy trade." Biomass & Bioenergy 30: 83-106.

Malmi (2000). Certification costs in private forestry (summary), Master thesis. Department of Forest Ecology. Helsinki, University of Helsinki.

Maris (2006). Interview by phone with Mr. J. Maris, Control Union, about sustainability criteria for biomass and implementation aspects for certification.

Metla. (2006). "Statistical Yearbook of Forestry 2004."

Moret and D. Rodriques (2006). Sustainability criteria and indicators for bioenergy, FBOMS, Energy working group of the Brazilian Forum of NGOs and Social Movements for the Environment and Development.

NRC (2005). Forest industry seeks EcoLogoM certification for biomass cogeneration Heads Up Newsletter. IX.

Oehme (2006). Development of ecological standards for biomass in the framework of green electricity labelling, WP2.2 report from the CLEAN-E project, Clean Energy Network for Europe, IFZ: 64.

ProForest (May 2006). Developing a mechanism for palm oil traceability from plantation to end user, annex 6 Draft chain of custody procedures for pilot testing. Oxford, Proforest commended by RSPO.

Reca and Hansen (2006). The oilseeds complex: non-food uses drive market dynamics, Rabobank International, F&A Research and Advisory.

Richert and S. Sielhorst (2006). Betere Biomassa - Achtergronddocument en principes voor duurzame biomassa (commisioned by WWF, Natuur en Milieu, IUCN Nederland). Amsterdam, AIDEnvironment.

Smeets and I. Lewandowski (2005). The impact sustainability criteria on the costs and potentials of bioenergy production. An exploration of the impact of the implementation of sustainability criteria on the costs and potential of bioenergy production applied for case studies in Brazil and Ukraine. Utrecht, the Netherlands, Utrecht University.

Stam (2006). Interview with H.Stam (CEO CEFETRA) on sustainability criteria and certification costs for biomass.

Sugrue and others (2006). Towards a Southern African NGO Position on Biofuels, CURES Southern Africa.

Wessels and others (2001). Ecolabelling and international trade law implications. Product certification and ecoloabelling for fisheries sustainability. Rome, FAO Fisheries Technical Paper 422.

WTO. (2006). "CTE on: how environmental taxes and other requirements fit in, http://www.wto.org/english/tratop_e/envir_e/cte03_e.htm." Retrieved 27 September 2006.

WWI (2006). Biofuels for transportation - global potential and implications for sustainable agriculture and energy in the 21st century. Washington D.C., Worldwatch Institute, commissioned by German Federal Ministry of Food, Agriculture and Consumer Protection (BMELV) in cooperation with the Agency for Technical Cooperation (GTZ) and the Agency of Renewable Resources (FNR).

Zarrilli (2006). The emerging biofuels market: regulatory, trade and development implications. Geneva, United Nations Conference on Trade and Development (UNCTAD).